

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
TEXARKANA DIVISION**

HITACHI MAXELL, LTD.,

*Plaintiff,*

v.

HUAWEI DEVICE USA INC. and HUAWEI  
DEVICE CO., LTD.,

*Defendants.*

Case No. 5:16-cv-00178-RWS

LEAD CASE

**JURY TRIAL DEMANDED**

HITACHI MAXELL, LTD.,

*Plaintiff,*

v.

ZTE CORPORATION and ZTE USA INC.,

*Defendants.*

Case No. 5:16-cv-00179-RWS

**JURY TRIAL DEMANDED**

**DEFENDANTS HUAWEI DEVICE USA INC., HUAWEI DEVICE CO., LTD., AND  
ZTE USA INC.'S CLAIM CONSTRUCTION BRIEF IN RESPONSE**

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<b>Exhibit / Abbreviation</b>	<b>Citation</b>
Ex. 1	Byun Ex. 1 - page 1462 of the Random House Webster's College Dictionary copyrighted 1997 (HUAWEI-HM_0047448-47450)
Ex. 2	Byun Ex. 2 - page 1342 of the Merriam-Webster's Ninth New Collegiate Dictionary copyrighted 1990 (HUAWEI-HM_0047452-47453)
Ex. 3	Byun Ex. 3 - page 1345-46 of Merriam-Webster's Collegiate Dictionary Tenth Edition copyrighted 1995 (HUAWEI-HM_0047445-47447)
Ex. 4	Byun Ex. 4 - pages 1-31 of Appendix 7 of Hitachi-Maxell's Preliminary Infringement Contentions of U.S. Patent No. 6,856,760
Ex. 5	Byun Ex. 5 - October 25, 2008 Notice of Allowability in the File History of the U.S. Patent No. 7,509,139 (HM_HUAWEI0008947-08950)
Ex. 6	Byun Ex. 6 - page 32 of the Webster's New World Computer Dictionary Ninth Edition copyrighted 2001 (HUAWEI-HM_0047480-47482)
Ex. 7	Byun Ex. 7 - page 42 of the Microsoft Computer Dictionary Fifth Edition copyrighted 2002 (HUAWEI-HM_0047454-47457)
Ex. 8	Byun Ex. 8 - pages 1-2 and pages 27-30 of the transcript of the September 27, 2017 hearing on Huawei's motion to dismiss
Ex. 9	Byun Ex. 9 - pages 56-57 of Appendix 2 of Hitachi-Maxell's Preliminary Infringement Contentions of U.S. Patent No. 7,509,139 (Apr. 21, 2017)
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Ex. 11	Byun Ex. 11 - January 19, 2007 Amendment and Remarks in the File History of U.S. Patent No. 7,295,767 (MAXELL_HU-ZTE0024845-24864)
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Ex. 21	Byun Ex. 21 - August 8, 1994 Response to Office Action and Proposed Amendment to the Drawings in the File History for U.S. Patent No. 5,396,443
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Wells Decl.	Declaration of Dr. Jonathan Wells, Ph.D., M.B.A. Regarding Claim Construction of U.S. Patent No. 7,203,517 (Oct. 23, 2017)
Wolfe Decl.	Declaration of Dr. Andrew Wolfe, Ph.D. Regarding Claim Construction of U.S. Patent No. 6,329,794
Mansoorian Decl.	Declaration of Dr. Barmak Mansoorian, Ph.D. Regarding Claim Construction of U.S. Patent No. 8,339,493 and U.S. Patent No. 8,736,729
Mayer-Patel Decl.	Declaration of Dr. Ketan Mayer-Patel, Ph.D. Regarding Claim Construction of U.S. Patent No. 6,816,491 and U.S. Patent No. 8,098,695
Andrews Decl.	Declaration of Mr. Scott Andrews Regarding Claim Construction of U.S. Patent No. 6,748,317
Ding Decl.	Declaration of Dr. Zhi Ding, Ph.D. Regarding Claim Construction of U.S. Patent No. 6,408,193

## **I. Huawei's Introduction**

Huawei's constructions (*see* Ex. 17) should be adopted because they are the most natural meanings of the disputed terms and capture the fundamental features of the alleged inventions; Maxell's constructions do not. Several of Maxell's asserted claims are indefinite because the specification fails to disclose structure sufficient to perform the claimed functions.

## **II. ZTE's Introduction**

Defendant ZTE (USA), Inc. ("ZTE" or "Defendant") hereby submits its Responsive Claim Construction Brief regarding certain terms in U.S. Patent Nos. 5,396,443 ("the '443 patent"), 6,329,794 ("the '794 patent"), 6,408,193 ("the '193 patent"), 6,758,317 ("the '317 patent"), 6,816,491 ("the '491 patent"), 8,098,695 ("the '695 patent"), 8,339,493 ("the '493 patent"), and 8,736,729 ("the '729 patent").

## **III. Legal Standard**

### **A. General principles of claim construction**

Claims terms should generally be given their plain and ordinary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005). The specification "is always highly relevant" and often "dispositive" because "it is the single best guide to the meaning of a disputed term." *Id.* (quotation marks and citation omitted). The "[o]rdinary meaning is not ... determined in a vacuum"; "a word describing patented technology takes its definition from the context in which it was used by the inventor." *Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1320 (Fed. Cir. 2016). "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998).

If the parties have "a fundamental dispute" about "the scope of a claim term," the Court has a "duty to resolve it." *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1362 (Fed.

Cir. 2008). When “briefing demonstrates that the parties have a ‘fundamental dispute’” over a term’s ordinary meaning, a party cannot avoid having the Court resolve the dispute by arguing that the “term should not be construed.” *TQP Dev., LLC v. 1-800-Flowers.com, Inc.*, 2013 WL 2177896, at \*5 (E.D. Tex. May 20, 2013) (quoting *O2*, 521 F.3d at 1362-63). The dispute demands resolution.

## **B. Means-plus-function limitations**

Claim terms may be expressed as a means plus a function. *See* 35 U.S.C. § 112 (f). Although the word “means” creates a presumption, any apparatus claim term is subject to § 112 (f) if it “do[es] not describe a sufficiently definite structure.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (holding that “‘module’ is a well-known nonce word” and “a substitute for ‘means’” because it is “simply a generic description for software or hardware that performs a specified function”) (internal quotation marks omitted).

Construing means terms is a two-step process: first the Court must “identify the claimed function,” then it “must determine what structure, if any, disclosed in the specification corresponds to the claimed function.” *Id.* at 1351. If a means term has multiple functions, each one must have corresponding structure. *Id.* at 1351-52. To be “corresponding structure” the “intrinsic evidence” must “clearly link[] or associate[] that structure to the function recited in the claim.” *Id.* at 1352. A person of ordinary skill must be “[a]ble to recognize the structure in the specification and associate it with the corresponding function in the claim.” *Id.* Otherwise, “the claim is indefinite.” *Id.*

“[A] bare statement that known techniques or methods can be used does not disclose structure.” *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 953 (Fed. Cir. 2007). To that end, when the function “must be implemented in a special purpose computer ... the structure disclosed in the specification [must] be more than simply a general purpose computer or microprocessor”: there must be “an algorithm for performing the claimed functions,” such as in a “mathematical formula, in prose, or as a flow chart.” *Williamson*, 792 F.3d at 1352-53. The mere fact that a person

of ordinary skill “could program a computer to perform the recited functions cannot create structure where none otherwise is disclosed.” *Id.* at 1351.

### **C. Indefiniteness**

A claim is indefinite if, when “viewed in light of the specification and prosecution history,” it fails to “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). A court’s ability to ascribe “some meaning” to a term during claim construction does not save the term. Indeed, the Supreme Court has expressly disfavored such “post hoc” efforts to “ascribe some meaning to a patent’s claims.” *Id.* at 2130 (emphasis on original). Instead, a claim is indefinite where “the claim language ‘might mean several different things’ and ‘no informed and confident choice is available among the contending definitions.’” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (quoting *Nautilus*, 134 S. Ct. at 2130 & n.8). Even if a definition is supported by the specification, “the claim is still indefinite if a person of ordinary skill in the art cannot translate the definition into a meaningfully precise claim scope.” *Id.* (citation omitted). Moreover, a patent involving measurements must disclose a single known approach or, where multiple possible approaches exist, establish that one skilled in the art would know which approach to select. *Dow Chem. Co. v. Nova Chems. Corp. (Canada)*, 803 F.3d 620, 630 (Fed. Cir. 2015).

### **IV. Persons of ordinary skill in the art**

For claim construction purposes only, ZTE and Huawei adopt Maxell’s levels of skill.

### **V. The ’443 Patent**

As stated in Maxell’s brief, the ’443 patent is allegedly directed to minimizing battery use by switching a device in and out of a power-saving mode. For example, power saving mode may begin when the user has not interacted with the device for a predetermined time and end when user

activity is thereafter detected. Dkt. 95 at 12-13. The sole claim construction dispute focuses on this latter point—detection of the resumption of activity.

**A. “a detecting means for detecting whether a user associated medium at least approaches at least part of a housing of said apparatus”**

The parties dispute the structure that corresponds to this term. The patent specification describes “approach detection type” (e.g., proximity) and “contact detection type” detection systems. ’443 patent, 9:13-15. Table 1 of the patent lists a variety of detector options and expressly describes each as approach type, contact type or both.<sup>1</sup> Originally presented claim 1 was written so as to capture both approach type and contact type systems. Original Claim 1, lines 3-7 (“detecting means for detecting whether an operation medium operated by the user ... *approaches or comes in contact* with ... the apparatus”).<sup>2</sup> October 7, 1993 Claims at 52. The PTO rejected the claim as indefinite under Section 112(2) as reciting “non-equivalent alternatives.” May 6, 1994 Office Action at 2. That is, the PTO found that approach type and contact type systems were non-equivalent.

In response, the Patentee narrowed claim 1 to delete reference to contact detection, and required that the detecting means detect whether the user associated medium “at least approaches” the housing. August 8, 1994 Amendment at 2. Thus, any corresponding structure must at least be approach type, although it may also be contact type. This is consistent with the plain meaning of “at least approaches,” which requires—at a minimum—approach type. In contrast, the plain meaning of the original claim language “approaches or comes in contact with” could be satisfied by either approach type or contact type. The corresponding structures included in Maxell’s construction but not included in Defendants’, are described in the patent as contact type only, and thus do not fall within the scope of the claim.

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<sup>1</sup> In reading Table 1, an “O” means the corresponding characteristic is present for that detector and an “X” means it is not present.

<sup>2</sup> All emphases added unless otherwise noted.

## VI. The '139 Patent

The disputes boil down to two issues: (1) whether the characterizing quantities of the communication quality must be group scores derived from the indexes of communication quality and (2) whether the obvious error in claim 11's "storage unit" term makes the claim indefinite.

### A. "characterizing quantities of the communication quality for each of the groups" (Claims 1 & 11)

Huawei's construction tracks the claim language, the alleged improvement over the prior art, Maxell's admissions, and would aid a jury. "The meaning of a technical term" must be "determined in accordance with its usage in the specification," *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1326 (Fed. Cir. 2004), particularly "the specification's consistent emphasis on th[e] fundamental feature of the invention," *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1324 (Fed. Cir. 2008). Here, calculating group scores using the indexes of communication quality is the fundamental feature of the alleged invention. The '139 patent states that prior-art base-station selection algorithms were deficient because they selected a base station using only the communication quality obtained between each base station and the terminal, without regard for how the measurements compared to related base stations (e.g., those on the same floor of a building). '139 patent, 2:19-23, 8:18-23, 9:21-27. To overcome alleged problems with this approach, the patent obtains indexes of communication quality between a terminal and each base station (as in the admitted prior art) and uses them to calculate "group scores" for groups of base stations. The group scores are ultimately used to select a base station. *Id.*, 2:19-3:5, 8:18-23 (same), 9:21-27 (same); Ex. 5 at 2. This is the alleged invention: selecting a base station based not on individual metrics, but on group scores. *Id.*, 1:13-15, 2:19.

Huawei recognizes that the only calculated quantities "for each of the groups" are the group scores. '139 patent, Fig. 3A-C ("**Group Score**"; "Example of **Group Score** Calculation"), 14 (same), 17 (same), 4:61-5:3 (similar), 5:19-27 (similar), 5:49-52 (similar), 6:3-6; *compare also* Fig. 1 (103 & 105) (103: "**calculate the characterizing quantities**"; 105: "**specify one group by the characterizing**



**quantities**”) *with* Figs. 4 (404 & 406) (404: “**calculate group score** of the group ID”; 406: “**specify group ID whose group score** is maximum”); *On Demand Machine Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1344 (Fed. Cir. 2006) (“[E]ach term must be construed to implement the invention described in the specification.”); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Grp., Inc.*, 262 F.3d 1258 (Fed. Cir. 2001) (“[W]hen a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning, he has defined the term by implication.”). Thus Huawei’s construction “most naturally aligns with the patent’s description of the invention.” *Renishaw*, 158 F.3d at 1250.

Huawei also stays true to the claim language. The claim language connects “the communication quality” phrase in the “characterizing quantities” to “**the** index of communication quality” term. The sequence of steps of claim 1 buttresses the link: obtaining the indexes before calculating the characterizing quantities. Even Maxell has admitted that “the specification identifies ... means of obtaining the ‘index’ **and** ‘characterizing quantities’ **of the ‘communication quality.’**” Dkt. 29 at 10-11. *Versata Software, Inc. v. SAP Am., Inc.*, 2009 WL 1408520, at \*6 (E.D. Tex. May 19, 2009) (connecting a term’s construction to a prior term because of the sequential nature of the claim). The dependent claims also show that claim 1’s characterizing quantities rely upon calculations of group scores based on indexes of communication quality: dependent claims 2-5 cover species of calculations (e.g., summation, average, maximum) calculated from species of the indexes of communication quality (e.g., received power, bit rate, SNR); *see also* claims 12-13 (similar).

Maxell also recently agreed that the characterizing quantities are group scores:

**The ’139 patent claims** [are] directed to a ... **second step** of calculating the characteristic qualities of the communication qualities for each group; that is, it **determines the entire group’s total group score**, as the Defendants pointed out ....

Ex. 8 at 28:24-29:3. Similarly, in its response to Huawei’s motion to dismiss, Maxell (1) explained that the claimed invention “us[es] the index of communication quality and characterizing quantities”

to be “able to select the base station that provides the requisite quality for the mobile station” and (2) gave an example: “calculate group scores” “us[ing] the received powers.” Dkt. 29 at 7; *id.* at 10-11 (similar); Dkt. 29-2 ¶ 25 (similar). Thus Huawei’s construction correctly ties the characterizing quantities to the group scores derived from the indexes of communication quality.

Maxell now argues that Huawei “unnecessarily limits” the term to group scores. Dkt. 95 at 30-31. But by not equating the characterizing quantities to group scores, Maxell “divorce[s]” the term “from the context of the written description” and ignores what Maxell admits is the alleged improvement: group scores. *Eon*, 815 F.3d at 1320-21. By not recognizing the “group scores” feature, Maxell incorrectly enlarges the claim to cover the prior art that the inventors disparaged. ’139 patent, 2:19-3:5, 8:18-23, 9:21-27; *Versata*, 2009 WL 1408520 at \*6 (adopting construction that captured “the reasons” “the specification distinguishes the present invention over [the] prior art”).

Maxell also argues that “it is not clear what Huawei means by ‘indication’ when the ’139 Patent does not use this term.” Dkt. at 31. This is surprising because Maxell agrees with Huawei that the construction for “obtaining an index of communication quality ...” is “obtaining an **indication** of communication quality ....” *See* Dkt. 74 at 7; Ex. 17 at 2. Thus the agreed-to construction for the “index” term provides the “antecedent basis” for the term “indication” in Huawei’s construction. *Cf.* Dkt. 95 at 31. Maxell’s argument is meritless. Maxell also argues that “[i]t is not clear what Huawei means by the group scores being derived from the indication of communication quality.” Dkt. 95 at 30-31. But the *claims* link the index of communication quality to the characterizing quantity terms. Maxell ignores this and incorrectly disconnects the two.

Maxell also argues that bit rates and SNR values can be characterizing quantities, not just indexes of communication quality, and as a result, the characterizing quantities cannot be group scores. Dkt. 95 at 30. Maxell takes a myopic view of the specification. The patent explains that “received power,” “bit rate,” and “SNR” are example indexes of communication quality. ’139 patent,

2:51-59. The Abstract explains that these indexes are used to calculate characterizing quantities, i.e., group scores: “Indexes of communication quality between the base stations and the terminal are obtained and, for each group, the characterizing quantities of the communication quality are obtained.” *Id.*, Abstract, 2:41-47 (same). The claims mirror this—obtaining indexes of communication quality and calculating characterizing quantities based on those indexes. *Id.*, Claims 1 & 11. While the patent states that, in one example, a “bit rate is used as a characterizing quantity,” *id.*, 6:7-9, it also states that “the bit rate may be used as the group score,” *id.*, 5:10-12. Similarly, though “the terminal obtains characterizing quantities, for example, received powers,” *id.*, 4:58-61, a “characterizing quantity may also be an average that is obtained by dividing the total power [i.e., sum of received powers] of each group by the number of base stations in the group,” *id.*, 2:60-62. Thus group scores can be “bit rates,” “received powers,” or “SNR” values because the group scores are calculated from received powers, bit rates, or SNRs of individual base stations (i.e., calculated from the indexes of communication quality between the terminal and each base station). So if bit rates are the indexes of communication quality, the calculated characterizing quantity (for example, a sum or average of the individual bit rates) is a “bit rate”; the same is true if SNR values are used as the index. By taking portions of the patent out of context, Maxell simply tries to muddy the waters.

Finally, Maxell’s construction is also not “useful for a juror,” *cf.* Dkt. 95 at 30: it just replaces “characterizing quantities” with “characteristics,” which leaves the term equally indecipherable to a jury. Maxell’s word-swapping construction ignores the fundamental feature of the alleged invention and should be rejected; Huawei’s construction embraces that feature and should be adopted.

**B. Indefinite: “a storage unit in which group information generated by classifying the plurality of base stations into groups” (Claim 11)**

When a claim term has an obvious error and does not make sense as written, the Court can only correct the error if it “is not subject to reasonable debate.” *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003); *In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983) (“A claim must

be read in accordance with the precepts of English grammar.”); *cf. Gilead Sci., Inc. v. Watson Labs., Inc.*, 2016 WL 1690306, at \*3 (D.N.J. Apr. 26, 2016) (noting that grammar mistakes are “blatant errors” under *Novo Indus.* and its progeny). This “standard is difficult to overcome.” *STMicroelectronics, Inc. v. Motorola, Inc.*, 327 F. Supp. 2d 687, 702 (E.D. Tex. 2004); *TracBeam, L.L.C. v. AT&T, Inc.*, 2013 WL 250532, at \*18 (E.D. Tex. Jan. 23, 2013) (noting that a district court’s “authority to correct errors in patents ... is more limited” than the PTO’s) (*citing Novo Indus.*, 350 F.3d at 1356).

Here, a correction is needed but it is subject to reasonable debate. The “storage unit” term has an obvious grammatical error (it is missing words, likely a verb phrase) that renders the term indefinite because one of skill in the art would be unable to determine with reasonable certainty which of (at least) two possible corrections to make. One possible correction, which Maxell injected into its infringement contentions, is to add the words “is stored” at the end. *See* Ex. 9 (red box added).<sup>3</sup> This means that the storage unit could be, for example, RAM (Random Access Memory; memory that can be rewritten) or ROM (Read Only Memory; memory that cannot be rewritten). *Akl Decl.* ¶¶ 173-75, 186-88. But another reasonable correction is to add “is stored in RAM” at the end. *Id.* ¶¶ 178-80. This would correct the claim to cover the preferred, indeed the only disclosed, embodiment. *Id.* ¶¶ 187-90 This too is a reasonable fix. The specific correction matters here because the potential changes lead to different claim scope: RAM is not ROM. *Id.* ¶ 188.

This Court and the District of Delaware recently invalidated claim terms that were similarly missing verbs. *Image Processing Techs., LLC v. Samsung Elecs. Co., Ltd.*, 2017 WL 2672616, at \*13 (E.D. Tex. June 21, 2017); *Trusted Knight Corp. v. Int’l Bus. Machs. Corp.*, 2015 WL 7307134, at \*6 (D. Del. Nov. 19, 2015); *aff’d*, 681 F. App’x 898 (Fed. Cir. 2017). *Image Processing* is instructive. The claim there concerned a “test unit” that performed various operations, including calculating, storing, receiving,

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<sup>3</sup> By inserting “is stored” into its infringement contentions, Maxell effectively concedes that the term has an obvious error that requires correction to give it meaning to a skilled person. *See* Ex. 9 at 1.

and updating. 2017 WL 2672616 at \*1. The defendant there argued that the term was “not grammatically correct ... and appears to be, at least missing a verb.” *Id.* at \*13.<sup>4</sup> The defendant also argued that there were at least two reasonable corrections: a test unit that (a) directly stores a value or (b) indirectly stores a value, the latter being the disclosed embodiment. *Id.* The plaintiff argued that (1) “the test unit receives the data” (i.e., stores the value directly), (2) the claim language did not need to be corrected, and (3) the alternative corrections were “irrelevant to a POSA’s understanding of the claim.” *Id.* This Court disagreed and found that both corrections were reasonable and imparted different claim scope, so the claim was invalid. *Id.*

Like the plaintiff in *Image Processing*, Maxell implicitly argues that the storage unit term is clear and the correction immaterial (because it offers no construction or correction). But, as in *Image Processing*, the “storage unit” term is missing a verb and a correction cannot save the claim from indefiniteness because there are at least two reasonable corrections: “... is stored” or “... is stored in RAM.” Akl Decl. ¶ 188; *Trusted Knight*, 2015 WL 7307134 at \*6 (invalidating claim that was missing a verb because an alternative correction “seem[ed] to be consistent with the specification[]”). Because there are at least two reasonable ways to correct the “storage unit” term’s obvious error and it is not possible, with reasonable certainty, to say that only one is correct, claim 11 is indefinite.

## VII. The ‘440 Patent

The ‘440 patent concerns recording and reproducing video and still pictures and their corresponding thumb nail pictures. The “Background Art” section explains that prior art devices use the MPEG encoding standard to encode video (“moving pictures”) and the JPEG encoding standard to encode still pictures, as illustrated in the left image below. ‘440 patent, 1:27-34, 1:58-62.

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<sup>4</sup> The full limitation stated “wherein the test unit is provided for calculating and storing statistical data processes, after receiving the data  $a_{ij}T$  corresponding to the space at an instant  $T$ , a content of the analysis memory in order to update the output memory of the analysis output unit.”

Background Prior Art		Alleged Invention	
Type	Encoding/Decoding	Type	Encoding/Decoding
Video	 MPEG	Video	 MPEG
Still Picture	 JPEG	Still Picture	 JPEG and  Single-Frame MPEG

According to the patent, the problem with the prior art approach is that, because a still picture is only encoded in JPEG, it could not be viewed on a player that supports only MPEG. *Id.*, 2:5-8, 8:24-32. The patent purports to solve this problem by recording a still picture in both JPEG and MPEG. *Id.* (right image above). The alleged benefit of recording an extra copy of a still picture in MPEG is that a device that is capable of reproducing only MPEG can now reproduce still pictures as well, which it could not before. *Id.*, 8:24-32. The patent describes this solution as the “present invention”:

[T]he recording method of the **present invention** used for a video recording apparatus that can **record both** moving and still pictures ... includes steps for recording **moving pictures encoded with the use of the first encoding method** when in recording moving pictures; and for recording **still pictures encoded with the use of the second encoding method** and other **still pictures encoded by the first encoding method** from single frame signals obtained from the still pictures when in recording still pictures.

*Id.*, 2:50-59; *see also id.*, 2:59-3:20 (describing the “present invention” as recording a still picture using the first and second encoding methods, where the first encoding method is also used to encode a moving picture), 4:52-60 (same), 4:61-5:1 (describing the “present invention” as reproducing a still picture encoded by the first encoding method), 5:5-14 (same), 5:15-21 (same).

**A. “still pictures encoded by a second encoding method, and second pictures corresponding to the still pictures and having a smaller number of pixels than the still pictures are recorded” (Claims 1, 3, 5, and 7)**

The parties agree that the “first encoding method” is a moving picture encoding method (e.g., MPEG) and that the “second encoding method” is a still picture encoding method (e.g., JPEG). Dkt. 95 at 9. The dispute is whether the claims require a still picture to also be encoded by

the first encoding method (i.e., a moving picture encoding method).<sup>5</sup> They do because “the very character of the invention requires” a still picture to be encoded using a moving picture encoding method (as a single-frame moving picture) so that a device that only reproduces moving pictures can now reproduce a still picture. *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1370 (Fed. Cir. 2003).

In *Alloc*, the Federal Circuit’s construction included “play” even though that word was not in the claims, 342 F.3d at 1370, because “the invention as a whole, not merely a preferred embodiment, provides for play,” *id.* at 1368-69. Likewise, “all the figures and embodiments disclosed in the asserted patents impl[ie]d play” or “expressly disclose[d] play.” *Id.* at 1370. The prosecution history of the patent-family confirmed that “play is a key feature of the claimed invention.” *Id.* at 1371. For example, to overcome prior art, “the applicant represented to the USPTO examiner that play facilitated its novel system.” *Id.* at 1372.

In *Virnetx, Inc. v. Cisco Sys., Inc.*, the Federal Circuit construed “secure communication link” to mean “a direct communication link that provides data security and anonymity” where “the addition of anonymity is presented as one of the primary inventive contributions of the patent.” 767 F.3d 1308, 1317-19 (Fed. Cir. 2014). This was because “the Summary of the Invention” gave “primacy to these [anonymity] attributes,” which “strongly indicates that the invention requires more than just data security.” *Id.* at 1317-18. Similarly, the concealment or anonymity requirement was “implicated in every embodiment.” *Id.* at 1318.

In *Honeywell Int’l, Inc. v. ITT Indus., Inc.*, the Federal Circuit construed “fuel injection system component” to mean “fuel filter” because the fuel filter was described as “th[e] invention” and “the

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<sup>5</sup> Maxell relies on *U.S. Surgical* to argue that a construction is not warranted. But in that case “the claim terms were not disputed by the parties at any point in the proceedings.” *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1366 (Fed. Cir. 2004) (citing *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554 (Fed. Cir. 1997)). Here, this term is in dispute and the Court must resolve this dispute. *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).

present invention.” 452 F.3d 1312, 1318 (Fed. Cir. 2006). As a result, “[t]he public [wa]s entitled to take the patentee at his word and the word was that the invention is a fuel filter.” *Id.* The “fuel filter [wa]s not a preferred embodiment,” it was the “only embodiment.” *Id.*

As in the above cases, the ‘440 patent describes the “present invention” as encoding a still picture using both the first and the second encoding methods. ‘440 patent, 2:50-59, 2:59-3:20, 4:52-60. Likewise, encoding a still picture using a moving picture encoding method is implicated in every embodiment. *Id.*, 7:3-8 (first embodiment), 9:36-42 (second embodiment), 12:38-41 (third embodiment), 13:58-62 (fourth embodiment). And as in *Alloc*, the prosecution history of a related patent shows that the inventors overcame the prior art by representing that encoding a still picture by the first encoding method (i.e., the moving picture method) is “a key feature” of the patent’s invention. 342 F.3d at 1371-72. Specifically, during prosecution of U.S. 7,295,767, which shares the specification with the ‘440 patent,<sup>6</sup> the inventors overcame an obviousness rejection by arguing that “[o]ne characteristic point of the present invention” is that still pictures are “encoded by the first encoding method **by which moving pictures are encoded.**” Ex. 11 at 12 (emphasis in original).

They further argued that:

According to the present invention, you can get an excellent merit like” being able to “play still pictures on such a moving-picture-only player” which “implements the first encoding method by which moving pictures are encoded (for example, MPEG), but which does not implement the second encoding method by which still pictures are encoded (for example, JPEG).

*Id.* They reinforced this by arguing that their “invention [of] having moving/first-encoding-method (e.g., MPEG), and still/first-encoding-method (e.g., MPEG) recording was [the] key in being able to reproduce still pictures within a device having **MPEG-only** capabilities.” *Id.* at 13 (emphasis in original). Thus relevant prosecution history of a patent having the same specification as the ‘440

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<sup>6</sup> Where two patents of a family share a specification, the prosecution history of the later patent may limit the claim of the earlier patent, even if the earlier patent had been issued before the relevant statements were made. *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1349 (Fed. Cir. 2004).

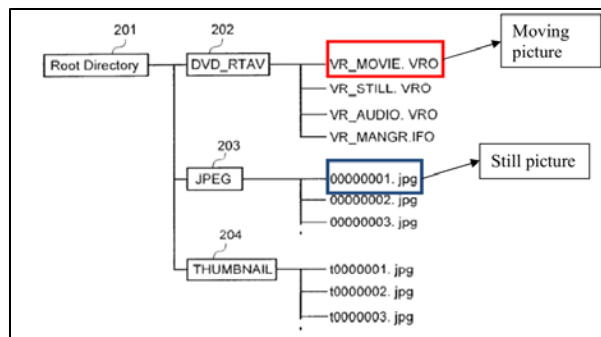


patent underscores that encoding a still picture using the first encoding method (i.e., the moving picture method) is the key feature of the invention. As a result, the patent emphasizes the benefit of being able to omit reproduction circuitry for still pictures encoded with JPEG. ‘440 patent, 12:61-63.

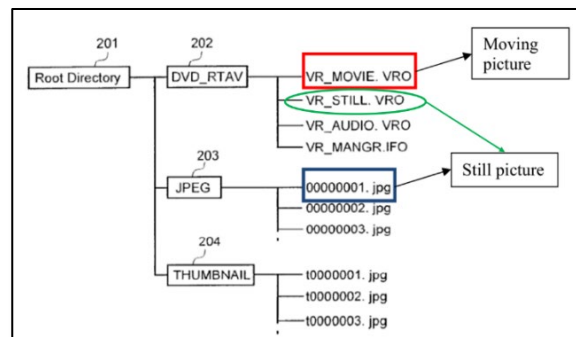
Maxell incorrectly asserts that Huawei’s construction excludes Figure 4 . Dkt. 95 at 11.

Maxell argues that “a moving picture is recorded with a ‘.VRO’ extension (e.g., first encoding method) and still pictures are recorded with a ‘.jpg’ extension (e.g., second encoding method).” *Id.* at 11. Maxell then incorrectly argues that Huawei excludes this “because it would require the still picture to be encoded in both the first (‘.VRO’) and second (‘.jpg’) encoding methods.” *Id.*

**Maxell’s Annotation of Fig. 4**



**Huawei’s Annotation of Fig. 4**



Maxell is mistaken. As shown in the right image above and described in the specification, Figure 4 discloses recording a still picture as both (1) a JPEG still picture (.jpg file: blue box) **and** (2) an MPEG still picture (a .VRO file: green oval): “In the still picture photographing mode, MPEG I-picture still pictures are recorded in the VR\_STILL.VRO file ... **as well as** a fine still picture data file containing JPEG-compressed data is recorded with a file name of 00000001.jpg under the JPEG directory 203 ....” ‘440 patent, 11:2-8.

Maxell also incorrectly argues that Huawei’s construction is wrong because “the reproducing apparatus includes the capability to reproduce one but not both still picture encoding formats.” Dkt. 95 at 11 (emphasis in original). But Maxell ignores that the purpose of the invention is to record a still picture as a single-frame moving picture so that a device that only has a moving picture

encoding method can reproduce both a moving **and** a still picture. By ignoring this key feature of the invention, Maxell seeks to reduce the '440 claims to the prior art apparatus disclosed in the "Background Art" section, merely embellished with a thumbnail.<sup>7</sup>

### VIII. The '760 Patent

The '760 patent shares the same specification with the '440 patent.

#### A. "first encoding method" (Claims 1, 3-4, 6-7, 9-10, 12-13, and 15)

The parties dispute the meaning of "first encoding method." Consistent with the specification, Huawei argues that a still picture should be encoded in a moving picture encoding method **and** a still picture encoding method. Maxell incorrectly argues that a still picture could be encoded in two types of still picture encoding methods, without a moving picture encoding method.

As discussed above, encoding a still picture using both a still picture encoding method **and** a moving picture encoding method is "one of the primary inventive contributions of the patent." *Virnetx*, 767 F.3d at 1317; *see also Honeywell*, 452 F.3d at 1318; *Alloc*, 342 F.3d at 1370. Likewise, the prosecution history of the '760 patent family underscores this feature. Thus Huawei's construction is that the "first encoding method" is the moving picture encoding method (and by implication that the "second encoding method" is the still picture encoding method).

In *Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, the Federal Circuit limited the construction of a claim term because the "consistent reference throughout the specification ... ma[de] it apparent that it relates to the invention as a whole, not just the preferred embodiment." 637 F.3d 1324, 1333 (Fed.

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<sup>7</sup> Maxell also argues that Huawei's construction of "first encoding method" as "moving picture encoding method" (in the '760 patent) is inconsistent with Huawei's construction for the same term in the '440 patent, because, Maxell says, "Huawei is proposing that the first encoding method be used to encode still pictures as well." Dkt. 95 at 12. Not so. As explained, the common specification discloses that the "present invention" records a still picture as a single-frame moving picture. Maxell even admits (for the '760 patent) that "the still pictures are encoded in multiple formats ... for example using the same encoding method used for moving pictures." Dkt. 95 at 32.

Cir. 2011). Similarly in *Contentguard Holdings, Inc. v. Amazon.com, Inc.*, Judge Gilstrap limited the construction of a claim term because “consistent, explicit disclosures ... should be given effect in the Court’s construction.” 2015 WL 8073722, at \*27 (E.D. Tex. Dec. 4, 2015); *aff’d*, 2017 WL 2963555 and 2017 WL 2963556 (Fed. Cir. July 12, 2017). Here, the ’760 patent consistently refers to the “first encoding method” as a moving picture encoding method that is used to encode a moving picture *and* a still picture (as a single-frame moving picture):

**[T]he present invention** used for a video recording apparatus that can record both moving and still pictures on a recording medium includes steps for recording **moving pictures encoded with the use of the first encoding method** when in recording moving pictures; and for recording still pictures encoded with the use of the second encoding method and other **still pictures encoded by the first encoding method from single frame signals** ....

’760 patent, 2:50-57; *see also id.*, 2:58-3:19 (referring to the “first encoding method” as a moving picture encoding method that is used to encode a still picture as a single-frame moving picture), 4:5-12 (same), 4:51-59 (same), 4:60-67 (same), 5:4-13 (same), 5:14-20 (same), 5:24-30 (same).

The prosecution history of the ’760 patent confirms this understanding. To overcome a rejection, the applicant distinguished U.S. 6,512,548 (“*Anderson*”) by providing the following table, and arguing that *Anderson* did not disclose the claimed “first still picture” in MPEG:<sup>8</sup>

Claims 1 and 2	Anderson (see Fig. 5)
First still picture (MPEG)	X (no disclosure)
Second still picture (JPEG)	Compressed image data
A picture	Thumbnail
X (no disclosure)	Scrennail

Ex. [ZY] at 12. When faced with prior art, Maxell narrowed “first encoding method” to moving picture encoding method. Maxell now seeks to broaden the “first encoding method.” by arguing that “[t]he first encoding method is one of potentially several encoding methods that may be used for

<sup>8</sup> If the applicant had not limited the “first still picture” to a moving picture encoding method (e.g. MPEG), *Anderson* would have clearly disclosed this limitation because it discloses two still pictures: (1) a compressed image data in one encoding method, and (2) a scrennail in another encoding method. *Anderson*’s scrennail would thus have been a “first still picture” and the applicant had already admitted that *Anderson*’s compressed image data met the claimed “second still picture.”

encoding still pictures, for example JPEG, MPEG, or others, without any preferential order.”<sup>9</sup> Dkt. 95 at 32. But this “expand[s] the scope of the claims far beyond anything described in the specification.” *Kinetic Concepts, Inc. v. Blue Sky Med. Grp., Inc.*, 554 F.3d 1010, 1019 (Fed. Cir. 2009) (construing “wound” to mean “skin wound”). In addition, Maxell’s proposal of “plain and ordinary meaning” not only flouts the key feature of the patent, it may raise a written description problem. *AbbVie Deutschland GmbH & Co., KG v. Janssen Biotech, Inc.*, 759 F.3d 1285, 1298 (Fed. Cir. 2014).

## IX. The ’292 Patent

The ’292 patent takes the results of two prior art location techniques—(1) GPS- and (2) cellular-based—and combines them based on their respective reliabilities. The disputes for this patent fall into three categories: (1) whether the competing constructions for the “combine” terms align with the evidence; (2) whether sufficient structure is disclosed for three means terms of claim 1; and (3) for the other means terms, what structures are clearly linked to the claimed functions.

### A. “combining” / “combined” (Claims 1 & 2)

The ’292 patent explains that the GPS and cellular positioning results are “weighted with the reliability 205 and the reliability 305, respectively” and then input to “combination unit 410”—the only disclosed combination unit—which “calculates a weighted mean.” ’292 patent, 4:49-56; *see also id.*, Abstract; 2:13-18, 3:12-17, 4:43-49, 5:7-12, Figs. 2 (606) & 3. That is, the data are merged.

Merging is not merely a preferred embodiment; it is the only embodiment. The position estimates are always merged based on their reliabilities. *Id.* The inventors believed that the “accuracy of the position determination may be enhanced” by “using **both** GPS and cellular signals” “compared to ... using either ... alone.” *Id.*, 4:1-3. When one estimate is unreliable, its reliability value—the weight input to the combination unit—is “preferably” set to zero by its reliability

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<sup>9</sup> In its infringement contentions, Maxell argues that the accused products record still pictures in two different still picture encodings: JPEG and RAW. Ex. 4 at 3, 25-26.

calculation unit so that the estimate “has no [net] effect” in the merge. *Id.* But even in this situation, the unreliable position estimate still enters the combiner to be merged. Combining unit 400 does not make any “decisions” based on the inputs; it simply merges them. *Cf.* Dkt. 95-1 ¶ 51. The algorithm in Figure 3 does not change if one weight equals zero. **All** position and reliability values, regardless of reliability, enter the combiner and are merged. Akl Decl. ¶ 42. Huawei’s construction reflects this core feature of the invention.<sup>10</sup> It is also consistent with the extrinsic evidence<sup>11</sup> and previous constructions of this term from other patents.<sup>12</sup>

Perhaps most significantly, Maxell previously agreed that in the ’292 patent “combine” means “merge”: when opposing Huawei’s motion to dismiss, Maxell explained that “[t]he handset could then use the two reliability measures to **merge** the GPS-based and cellular based estimates into a single . . . location.” Dkt. 29 at 5; *see also id.* at 4 (“The handset could then **merge** the two estimates. . .”). Maxell’s “statement[] against interest” is relevant to “the scope of” this term. *See Conopco, Inc. v. Warner-Lambert Co.*, 2000 WL 342872, at \*6 (D.N.J. Jan. 26, 2000).

Maxell is incorrect because it expands combining into selecting. It allows for an output based on merely one input. So if the GPS and cellular positions are equally reliable, a device can use just

<sup>10</sup> Contrary to Maxell’s criticism, Huawei covers the full scope of combining in the ’292 patent. Dkt. 95 at 25. The disclosure that Maxell wrongly argues undermines Huawei’s construction—addressing how unreliable estimates are handled—supports Huawei’s construction. As explained, even when an estimate is unreliable it is still merged (it is just multiplied by a weight of 0 in the weighted average formula that does the merging).

<sup>11</sup> Ex. 10 (“**combine** . . . 1. To bring into a state of unity; **merge**”), (“**combining** . . . 1. The act or process of joining, **merging**, or mixing two or more things”); *see also Peer Commc’ns Corp. v. Skype Techs. SA, Skype, Inc.*, 2008 WL 4831001, at \*6 (E.D. Tex. May 29, 2008) (using American Heritage Dictionary of the English Language to construe a term); *aff’d*, 33 F. App’x 570 (Fed. Cir. 2009).

<sup>12</sup> *Charles E. Hill & Assocs., Inc. v. Abt. Elecs., Inc.*, 2012 WL 72714, at \*13 (E.D. Tex. Jan. 10, 2012) (“combining” means “merging or uniting in the remote computer the constant data and variable data in a meaningful way”); *Sn. EFuel Network, L.L.C. v. Transaction Tracking Techs., Inc.*, 2009 WL 3460265, at \*8 (E.D. Tex. Oct. 23, 2009) (adopting agreement that “combining” means “Merging the data from”); *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 422 F. Supp. 2d 446, 457 (D. Del. 2006) (“combining” means “adding together”).

one and throw the other away. Dkt. 95 at 24. But that is *selecting*, not combining. That is not what the patent teaches or claims. Maxell ignores that in “*the present invention ... the mobile handset ... us[es] both GPS and cellular signals,*” an “enhance[ment] as *compared to ... using either GPS signals or cellular signals alone.*” ’292 patent, 5:3-12; *Praxair*, 543 F.3d at 1324 (“The claims of the patent must be read in light of the specification’s consistent emphasis on th[e] fundamental feature of the invention.”). So if the two estimates are equally reliable they must **both** be combined and weighted equally. But Maxell would allow “a determination based on” just “one ... input[],” thereby eviscerating the patent’s fundamental feature. *On Demand*, 442 F.3d at 1344 (“Care must be taken lest word-by-word definition, removed from the context of the invention, leads to an overall result that departs significantly from the patented invention.”).

## **B. Means-plus-function limitations (Claim 1)**

Claim 1 has seven means limitations that the parties agree are subject to 35 U.S.C. § 112(6). Dkt. 74 at 16-30. Three—the “GPS reliability,” “cellular reliability,” and “cellular position” means—are indefinite because they lack sufficient corresponding structures. For the rest, Huawei’s constructions identify the minimum structures that are clearly linked to the claimed functions.

### **(1) Indefinite: “GPS reliability calculation means for calculating GPS positioning reliability based on the GPS-based position result” / “cellular reliability calculation means for calculating cellular positioning reliability based on the cellular-based position result” (Claim 1)**

The ’292 patent does not disclose sufficient structures for the two reliability means terms. The fundamental feature of this patent is to merge GPS- and cellular-position estimates “depending on the reliability ... for each position[]” estimate. ’292 patent, 3:12-17. To do this, the “mobile handset calculates the reliability ( $W_{\text{gps}}$ )” for the GPS position using “the number of GPS satellites ... and the received signal quality” of the GPS signals. *Id.*, 2:60-65; *id.*, 3:44-4:3 (similar). The disclosure is nearly identical for calculating “the reliability ( $W_{\text{cell}}$ )” for the cellular-based estimate, essentially replacing “satellite” with “base station.” *Id.*, 4:22-34. The patent also includes black boxes marked

“GPS Reliability Calculation Unit 205” and “Cellular Reliability Calculation Unit 304” in Figure 1 and purely functional steps in Figure 2 (e.g., “Calculate the reliability ( $W_{\text{gps}}$ ) for  $L_{\text{gps}}$ ” 602). Thus, for the reliability functions, the patent just lists (1) desired outputs— $W_{\text{gps}}$  and  $W_{\text{cell}}$ ; (2) potential inputs—the number of satellites (GPS), base stations (cellular), and received signal qualities; and (3) figures with purely functional, or black, boxes. This disclosure is not enough. *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1317 (Fed. Cir. 2012) (“[P]urely functional language, which simply restates the function ... is insufficient to provide the required corresponding structure.”); *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 519-20 (Fed. Cir. 2012) (holding that “a black box that represents ... function without any mention of a corresponding structure” is insufficient); Akl Decl. ¶¶ 102-10.

The ’292 patent does not provide structure that converts these inputs into the described outputs. It does not offer, for example, an algorithm for converting the “number of satellites,” the “number of base stations,” or the “received signal quality” into reliability values for position estimates. *Id.* ¶¶ 102-08. Drawing boxes for “GPS reliability calculation unit” and “Cellular reliability calculation unit,” listing potential inputs to these boxes, and labeling the outputs of these boxes, does not denote structure. *Id.*; *Furnace Brook LLC v. Overstock.com, Inc.*, 230 Fed. Appx. 984, 988 (Fed. Cir. 2007) (“The label ‘online interactive communications network,’ however, identifies no specific structure for performing the claimed function; it describes only a generic class of structures and was thus properly ignored.”). And the number of satellites and base stations are neither reliability values in themselves nor structure. Akl Decl. ¶ 109; *ePlus*, 700 F.3d at 518 (holding that structure is not found in disclosing inputs that “can be converted to” desired outputs using a “step” in a figure); *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1352 (Fed. Cir. 2003) (holding that inputs to a means from monitoring those inputs “cannot be part of the structure that does the monitoring”). Because the patent gives “no instruction for using a particular piece of hardware, employing a specific source code, or following a particular algorithm” for implementing the reliability functions,

claim 1 is indefinite. *ePlus*, 700 F.3d at 518-20 (holding term indefinite because there was not even “a recitation in simple prose that can be deciphered as a structural limitation”).

Maxell’s attempt to conjure up structure fails; its expert cannot “create structure where none otherwise exists.” *Williamson*, 729 F.3d at 1354.<sup>13</sup> Maxell’s open-ended recitation—GPS/cellular “reliability calculation unit 204 **and/or components** ... that perform **processing functions, such as**, a CPU ..., a processor ..., **or** equivalents,” Dkt. 95 at 16, 20-21—finds no support. The patent does not disclose even one processor. Nor does it disclose an algorithm for a processor. Mirroring the specification, Maxell only identifies inputs and outputs. Dkt. 95 at 17-19, 22-23. It does not identify particular hardware or an algorithm—a “fixed step-by-step procedure for accomplishing a given result”—for processing these inputs to generate these outputs. *E-Contact Techs., LLC v. Apple, Inc.*, 2013 WL 12136381, at \*2 (E.D. Tex. Mar. 20, 2013); Akl Decl. ¶¶ 104-13. Maxell also claims that a person of ordinary skill can calculate “high” or “low” reliability values based on the disclosed inputs (e.g., number of GPS satellites). Dkt. 95 at 19. But this is not structure; it has no support in the specification; and “high”/“low” do not fit the preferred embodiment. Akl Decl. ¶¶ 112-13.

The “inquiry” here is “not simply whether [a] person would be capable of implementing a structure.” *Biomedino*, 490 F.3d at 953; *see* Dkt. 95 at 18-19, 22-23. The inventors were required to, but did not, disclose structures (e.g., algorithms) to convert data—like the number of satellites, number of base stations, or signal quality—into reliability values. *See ePlus*, 700 F.3d at 518. Maxell’s overbroad construction confirms that the ’292 patent “in effect claim[s] everything ... under the sun” “that generates” reliability values and shows that “[t]he problem here is not the adequacy of the substance or form of the disclosure, but the absence of any disclosure at all.” *Id.* at 518-20.

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<sup>13</sup> Maxell’s expert declaration does not demonstrate that there is sufficient structure for these terms (or the cellular positioning means). *See* Akl Decl. ¶¶ 114, 140-42, 152.



**(2) Indefinite: “cellular position calculation means for calculating the mobile handset’s position from the received cellular signals and outputting a cellular-based position result” (Claim 1)**

The cellular position calculation means is also indefinite because its function is also tied to insufficient structure. All that the patent shows is inputs (“GPS signals), an output (“positioning result  $L_{\text{cell}}$ ”), a black box (“Position calculation unit for cellular 301”), and a non-structural, purely functional block (“Calculate positioning result  $L_{\text{cell}}$ ”). *See* ’292 patent, Figs. 1-2, 3:4-11, 4:10-15; Akl Decl. ¶¶ 131-34. The patent does not describe either hardware or an algorithm that connects the inputs to the output. It offers “no instruction for using a particular piece of hardware, employing a specific source code, or following a particular algorithm” for the function. *ePlus*, 700 F.3d at 519-20.

Maxell identifies only a desired output, a black box, and unrelated- or non-structure, because that is all that the patent discloses. Dkt. 95 at 21 (citing 1:23-27 (background citation to a Japanese patent application), 3:10-11 (label for a block), 4:4-16 (generic inputs and desired output, not structure), 2:66-3:6 (same), 5:3-7 (same)); Akl Decl. ¶¶ 135-39. This is not enough: “[t]he structure must do more than simply restate the function as recited in the claim.” *E-Contact Techs.*, 2013 WL 12136381, at \*9. Maxell argues that the structure could be an algorithm, Dkt. 95 at 20-21, but it does not identify an algorithm, Akl Decl. ¶¶ 135-39. Although cellular positioning techniques were known before the filing date of the ’292 patent, “position calculation unit for cellular 301” is not a term of art and the mere invocation of this phrase, even in light of the other disclosure that Maxell cites, does not connote structure to a skilled person: these techniques were (and still are) usually implemented as particular algorithms in hardware or a general-purpose processor. *Id.* ¶¶ 132-37. That a person of ordinary skill *could* devise a way to calculate cellular-based positions does not save this claim because the inventors were required to identify the structure they wanted to claim, but they did not do that. *See Biomedino*, 490 F.3d at 953. The Japanese Patent Application that Maxell cites does not save the claim, Dkt. 96 at 21, because even if it were incorporated by reference, it

cannot add structure, *see Otto Bock HealthCare LP v. %20Ossur HF*, 557 F. App'x 950, 955 (Fed. Cir. 2014) (explaining that “the content of a nonpatent publication incorporated by reference” cannot “add structure”).

**(3) “GPS position calculation means for calculating the mobile handset’s position from the received GPS signals and outputting a GPS-based position result” (Claim 1)**

Huawei properly identifies the only structure linked and minimally necessary to denote the structure of the GPS position calculation means: GPS 201 and Fig. 2, Block 601. Akl Decl. ¶ 90. Maxell goes too far, without support. Maxell requires “at least one processor,” thus placing no upper bound on the number of processors, even though not even one is disclosed. *Id.* ¶ 92. Maxell also requires vague “processing functions” and adds superfluous disclosure as part of its structure. Dkt. 95 at 16 (incorporating 3:24-38 (discussing receive operations and a desired output, not position-calculation structure)); 2:53-50 (same); 5:3-7 (same)); Akl Decl. ¶ 92.

**(4) “GPS/cellular positioning results combining means for combining the GPS-based position result and the cellular-based position result with the GPS positioning reliability and the cellular positioning reliability” (Claim 1)**

The only structure clearly linked to the function of the combining means is the weighted average disclosed in Figure 3, described at 4:49-56, and identified as block **606** in Fig. 2. *Id.* ¶¶ 156. The additional disclosure that Maxell points to is not structure and is not clearly linked to the combining function. Dkt. 95 at 23-24 (citing 4:36-56 (lines 36-41 is not structure for the combiner; 4:42-56 is subsumed by Fig. 3); 3:64-4:3 (same); 3:12-17 (inputs and outputs, not structure); 5:3-7 (same)); Akl Decl. ¶¶ 157-68.

**(5) “GPS receiver means for receiving GPS-oriented signals and generating received GPS signals” / “cellular receiver means for receiving cellular oriented signals and generating received cellular signals” (Claim 1)**

The parties dispute whether antennas are part of the receiver structures. They are not. *See* '139 patent, Fig. 1 (antenna **100** distinct from GPS (**200s**) and cellular (**300s**) boxes); *Respironics, Inc. v. Zoll Med. Corp.*, 656 F. App'x 531, 535-36 (Fed. Cir. 2016) (holding that “an unclaimed element” is

not a limitation just because it “may be necessary for a device to function as claimed”) (citation omitted); Akl Decl. ¶¶ 75, 117. The rest of what Maxell identifies should be rejected for similar reasons: it is not structure nor clearly linked to the claimed functions. *Id.* ¶¶ 76-87, 118-28; *Asyst Techs., Inc. v. Empak, Inc.*, 268 F.3d 1364, 1369-70 (Fed. Cir. 2001) (“Structural features that do not actually perform the recited function do not constitute corresponding structure ....”).

## **X. The ’517 Patent**

The patent describes a mobile communication device that has multiple physical interfaces, such as WiFi and cellular. The patent states that prior-art devices switched physical interfaces based on “communication situations of the respective communication interfaces.” *Id.*, 1:10-18. So when a device was moving, “the interfaces change[d] place in the rank for their availability and favorableness.” *Id.*, 1:33-50. This caused “frequent switching” of, and instability in, the connection. *Id.* To prevent frequent switching and instability in a moving device, the fundamental feature of the ’517 patent is to integrate the device’s moving speed into the switching decision. *Id.*, 1:58-64.

### **A. “waits a longer time until switching”**

The patent only offers a single passage about intentionally waiting to switch interfaces. Dkt. 74 at 34. It explains that, when the current physical interface is unavailable, the device “waits for a fixed time” before deciding whether to switch interfaces; it does this to “prevent useless switching”:

If a physical interface in use becomes unavailable during a communication, the mobile communication terminal device 100 waits for a fixed time for the physical interface to recover. If the physical interface does not recover even after the fixed time, the connection is switched. Since the mobile communication terminal device 100 is relatively stable in communication when it remains at rest, a physical interface switching wait time **may be set to be short**. On the other hand, when the mobile communication device 100 is relatively instable in communication when it is moving, the physical interface switching wait time **may be set to be long**. In this way, it is possible to prevent useless switching from one physical interface to another and to switch to an appropriate physical interface.

’517 patent, 6:62-7:8. This is the fundamental feature of the alleged invention, *Id.*, 1:58-64, which is reflected in Huawei’s construction. *See, e.g., Alloc*, 342 F.3d at 1370. Huawei respects that the claim is

not about incidental delays in switching due to the inherent time it takes to analyze wireless signals received by a moving device. Those delays occur whether or not the switching mechanism accounts for moving speed. Thus they are outside the '517 patent's invention. Indeed, this incidental instability is the alleged problem in the prior art that the patent wants to solve. It attempts to do so by expressly using the device's moving speed as a factor in the interface selection—by waiting longer intentionally before attempting to switch interfaces when the device is moving faster. *See, e.g.*, '517 patent, 1:58-64. Huawei's construction properly avoids the very problem the patent purports to solve. *Versata*, 2009 WL 1408520, at \*6 (adopting defendant's construction because it captured “the reasons” “the specification distinguishes the present invention over [the] prior art”). Huawei's construction provides the proper scope for this term.

Maxell argues that no construction is necessary because the term's plain language is clear. Dkt. 95 at 26. But a construction is necessary because Maxell's infringement contentions reveal a fundamental dispute over claim scope. Maxell alleges infringement of claim 1 by devices that ignore moving speed in their switching decisions, but that may coincidentally take longer to establish a connection because of inherent instability in the connection or temporary reductions in signal strength. *See, e.g.*, Ex. 16 at 59. So if these devices ever (incidentally) take longer to switch, it is due to inherent aspects of wireless communication in a moving device, which the '517 patent sought to ameliorate by expressly using moving speed in the switching decision. *See, e.g.*, '517 patent, 1:58-64. Unlike a passive word like “takes” (i.e., “takes a longer time”), “wait” implies an intentional delay; the specification likewise speaks of “setting” the delay. *Id.*, 6:66-7:5. So Huawei's construction does not ignore the inventor's proposed solution: using a device's moving speed in the switching decision. This is how a person of ordinary skill understands the “waits a longer time” term in the context of the patent; Huawei's construction clarifies this for a lay jury.

Maxell also suggests that a device “may” (but does not have to) wait a longer time and still be within the scope of the invention. Dkt. 95 at 26. But this ignores the text immediately before Maxell’s cite noting that the device “waits for a fixed time for the physical interface to recover” and only switches “[i]f the physical interface does not recover even after the fixed time.” ’517 patent, 6:62-7:8. So “may” only means that the fixed time can be set to different intervals; it does not mean that waiting a longer time is optional. Instead, some “fixed time” is defined (i.e., “set”) as the wait time before deciding whether to switch. But independent of the fixed wait time, the invention requires that the moving speed be integrated into the switching decision.

**B. Indefinite: “selection switching determination unit for selecting one from said first and second physical interfaces to switch to a selected physical interface .... waits a longer time until switching of said physical interface when said movement determination unit determines the moving speed being faster” (Claim 1)**

This term “selection switching determination unit” is subject to § 112(6) because it “fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function.” *Williamson*, 792 F.3d at 1349 (citation and internal quotation marks omitted). “Unit” is a nonce word equivalent to “means” that does not impart any structure. *Id.* at 1350. The modifier here—“selection switching determination”—fails to lend any structure to the unit. *Cellular Commc’ns Equip. LLC v. HTC Corp.*, 2015 WL 10741012, at \*13 (E.D. Tex. Mar. 9, 2015) (“determination unit” term subject to § 112(6) because the term “only recites the function of designating without any corresponding structure”); *Saint Lawrence Commc’ns LLC v. ZTE Corp.*, 2016 WL 6275390, at \*19 (E.D. Tex. Oct. 25, 2016) (“spectral shaping unit” subject to § 112(6) because “unit” is a nonce word, the term was “otherwise arranged in means-plus-function format[,]” and the modifier “spectral shaping” did not “impart sufficient structural meaning”); *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1373 (Fed. Cir. 2015); Wells Decl. ¶ 42. Further, one of skill in the art would not understand this term to inherently provide structure, or connote a class of readily

discernible structures. *Id.* The term is also recited as the function it performs: the selection switching determination unit is “for selecting one from said first and second physical interfaces.” This functional claim language does not impart structure. *Id.* ¶¶ 42-43.

Because the ’517 patent fails to disclose structure corresponding to the claimed function of the “selection switching determination unit,” claim 1 is indefinite. *See Williamson*, 792 F.3d at 1354. The patent describes a “switching determination unit 108” but does not identify physical structure for this unit. Instead, it is a black box. *See, e.g.,* ’517 patent, Fig. 1. The patent only describes this unit by the function it performs. *See, e.g., id.*, 3:33-39; 3:50-61; 4:41-50; Wells Decl. ¶ 43. As discussed above, this is insufficient. *Noah Sys.*, 675 F.3d at 1317; *ePlus*, 700 F.3d at 519-20.

The specification further fails to disclose an algorithm to perform the claimed functions. “Clearly, a unit which receives digital data, performs complex mathematical computations and outputs the results ... must be implemented by or on a general or special purpose computer...” *In re Dossel*, 115 F.3d 942, 946-47 (Fed. Cir. 1997). The patent provides flow charts that only partially describe how the switching determination unit 108 selects a physical interface, but do not address the key function: waiting a longer time until switching. *See* ’517 patent, Fig. 4, 6, & 9.

Figures 4 and 9 do not consider moving *speed* at all in determining how long to wait before switching. Wells Decl. ¶ 45. Instead, they focus on whether the device is in a rest-state or a moving-state to determine which interface to use. *Id.* But claim 1 requires “wait[ing] a longer time until switching” interfaces when the device is moving “faster.” So the patent must disclose structure that (1) considers moving speed when making the switching decision and (2) varies the wait time based on the moving speed. Figures 4 and 9 do not do this; they consider only whether the device is moving or not, and even then not for the purpose of adjusting a wait time. *Id.*

Figure 6 does consider whether the moving speed is “high” or “low” (step S407-1). *Id.* ¶46. The interface is then selected based on the listed high- and low-speed priorities. *Id.* But Figure 6

does not recite varying the wait time before switching. *Id.* It does not require the switching determination unit to delay switching or to wait a longer time when it determines that the device is moving *faster*. *Id.* Figure 6 and its related disclosure also do not depict or explain how to vary the wait time wait based on moving speed. *Id.*

The patent's sole passage about waiting a period of time before switching relates to switching away from the current physical interface when it becomes *unavailable*. '517 patent, 6:62-7:9. But the related flow charts only explain how a device selects a network address when first selecting a physical interface. *Id.*, Fig. 6 (S401) ("Start establishment of connection"). And the disclosure about waiting a period of time before switching only turns on whether the device is moving or not. It does not (1) consider the moving speed or (2) or require waiting a longer time depending on the moving speed. In short, it fails to provide the algorithm.

## **XI. The '901 Patent**

The patent is directed to an apparatus that corrects video signals. It purports to save power by performing calculations for the video signal correction only when there is a change in the video signals, i.e., a scene change. '901 patent, 8:28-34. The patent also purports to improve the video signal correction by taking into account the environmental illumination. *Id.*, 12:41-45.

### **A. "when any change occurs in the video signal inputted to the input portion" / "when the change of the video signal does not occur and when the illumination detected by the illumination sensor is above a predetermined value" (Claim 1)**

The specification clearly supports Huawei's construction because it shows that the "when" clauses require responsiveness to the specified event, rather than just coincidence in time.

The patent discloses an Image Improving Circuit 15 that corrects the video signals based on two inputs: (1) change in the video signals, and (2) illumination detected by the Illumination Sensor. '901 patent, Fig. 19, 4:13-15, 12:20-29. Image Improving Circuit 15 contains a Scene Change

Detection 1552 unit that detects whether or not there is a change in the video signals, i.e., a scene change. *Id.*, Figs. 22, 11 & 7:60-62.

When the Scene Change Detection 1552 unit does detect a change in the video signal, it generates Interrupt 141 for CPU 7. *Id.*, 7:60-62. In response to Interrupt 141, CPU 7 updates the correction data based on the distribution of luminance, hue, and saturation of the video signal. *Id.*, 7:54-64. Correction Portion 152 unit in Image Improving Circuit 15 uses the updated correction data to correct the video signal. *Id.*, 8:63-65. RGB Gain Adjustment Portion 1510 unit in the Image Improving Circuit 15 further corrects the video signal depending on the intensity of illumination detected by the illumination sensor. *Id.*, 12:25-35. Thus, **in response to** a scene change, Correction Portion 152 and RGB Gain Adjustment Portion 1510 collectively correct the video signal.

But, when Scene Change Detection 1552 unit does not detect a change in the video signal, then CPU 7 does **not** update the correction data, thus saving power. *Id.*, 8:18-34. If the illumination detected by the illumination sensor is above a predetermined value, “CPU 7 outputs a control signal instructing correction of the output tone to the RGB gain adjustment portion 1510.” *Id.*, 12:26-29. Therefore, **in response to** (1) no change of the video signal, and (2) the illumination detected by the illumination sensor being above a predetermined value, the CPU 7 “corrects luminance of the video signal without correcting hue and saturation of the video signal.”

The extrinsic evidence supports the understanding of the term “when” as signifying a cause-and-effect relationship. Ex. 1 (“when . . . in the event that”); Ex. 2 (“when . . . at the time or in the event that”); Ex. 3 (“when . . . in the event that”).

Contrary to Maxell’s view, construction would help the jury understand that the “when” clauses require a cause-and-effect relationship: a specific kind of video signal correction is performed **in response to** certain conditions being satisfied. *See Am. Calcar, Inc. v. Am. Honda Motor Co.*, 651



F.3d 1318, 1340 (Fed. Cir. 2011) (construing the term “when” in the same way as the term “in response to,” which “connotes that the second event occur in reaction to the first event”).

## **XII. The ’438 Patent**

The ’438 patent is about sending pictures and messages to a display apparatus if the user has been authenticated. A user initiates the process by sending user-authentication data to the display apparatus via a device’s short-distance communication unit. ’438 patent, 6:51-7:10. If the display-apparatus authenticates the user, the user can then exchange other data with the display apparatus (via a second communication unit). *Id.*, 3:11-16. Authenticating via a short-distance communication unit is crucial. Otherwise unauthorized users can access and post to the display apparatus “without regard to the physical location of the notice-contributing user.” *Id.*, 1:36-41. Thus authenticating the user over a short-distance unit is the fundamental feature of this patent.

### **A. “input entered by a user” (Claim 1)**

Huawei’s construction for “an input entered by a user” recognizes this key feature and tracks the claim language. Claim 1 requires “an input unit for receiving an input entered by a user.” It also requires “using said input, [to] carr[y] out an authentication process for allowance to use said display apparatus.” The parties agree that “an authentication process for allowance to use said display apparatus” means “a process that authorizes the user to use the display apparatus.” Dkt. 74 at 7. Because the remaining claim language must be read in light of this meaning, the input entered by the user must authorize the user—it must be unique to the user.<sup>14</sup> A User ID and password are the only unique data disclosed as “input entered by a user” for carrying out an authentication process. The User ID “identif[ies] a user contributing the content.” ’438 patent, 6:14-15. Associated with the ID is

<sup>14</sup> Extrinsic evidence mirrors the patent: “authentication” is “the process by which the system validates a user’s logon information. A user’s name and password are compared against an authorized list, and if the system detects a match, access is granted to the extent specified in the permission list for that user.” Ex. 6; Ex. 7 (“**authenticate**[:] To establish the identity of a person accessing a computer network.”).

a password. Both “a user ID 111 **and** a password 112 ... **are required** when the user starts use of the mobile terminal 1 in the electronic notice-board system.” *Id.*, 4:22-26. This information (known only to the user) is stored and compared to the input entered by the user in order to authenticate the user. *Id.* So as Huawei proposes, the “input entered by a user” must be used to carry out “a process that authorizes *the user* to use the display apparatus.” And the user-input should be unique to the user—like a user ID and password—so that the user can be authenticated. *Id.*, 6:58-7:4.

Terms must also be read in the full context of the specification. *Eon*, 815 F.3d at 1320. While a user can enter many inputs, the patent considers the “input entered by a user” only in the context of the authentication process: a User ID and password are the only authenticating data disclosed as “input entered by a user” in this context. ’438 patent, 6:51-7:4 (“[T]he login request module 117 employed in the mobile terminal 1 retrieves the user ID 111 and password 112 of the user from the terminal-owner-information DB 110 and transmits the user ID 111 and the password 112 to the display terminal 2 as a request for a login.”). The display terminal then analyzes the ID and password “**in order to** authenticate the user as a registered user.” *Id.*, 6:63-67. “If the user is found to be a valid user” (i.e., the user ID and password match), then the user can access the display terminal; if the user ID and password do not match, access is denied. *Id.*, 6:67-7:10. In other words, the “input entered by a user” is needed to authenticate the user, i.e., confirm that the user is authorized (the User ID is registered) and valid (the user has sent right password for this user ID).

Maxell’s construction ignores this context and key feature of the invention. Maxell argues that the “input entered by a user” can include a “picture” or a “message in message field 1202.” Dkt. 95 at 34 (citing ’438 patent, 7:58–65; Figs. 10, 12, and 13). But those are merely potential posts to the display apparatus; they are not the input to be used to “carr[y] out an authentication process for allowance to use said display apparatus” as required later in the claim. A picture and message are not pre-associated with a user; so they cannot authenticate the user. Instead, they are types of data that

the user can contribute to a notice board only *after* being authenticated. '438 patent, 7:47-51, 8:52-56. Until authenticated, the user cannot transmit pictures or messages to the display apparatus. *Id.*; *see also id.*, claim 1. The entire point of using the short-range communication unit to authenticate the user is so that only valid users (that are physically close to the message board) can transmit postings to the message board (e.g., messages and pictures) using a second communication unit. A picture or message, as Maxell's construction would allow, does not authenticate a user.

### **XIII. The '491 Patent**

This patent concerns software based audio decoders that can support multiple decoding schemes. Instead of storing all decoding methods in the internal memory, the patent concerns a system for detecting for changes in the decoding method and updating the internal memory with a new decoding method obtained from an external ROM, under the control of a controller means.

**A. “controller means for detecting change in said method of compression and encoding, and for transferring the decoding program code corresponding to the method of the compression and encoding after being changed, from said read-only memory to said first memory”**

The parties agree that this term is a means-plus-function (“MPF”) governed by Section 112(6). The parties also agree as to the corresponding function for claim 1. The language of claim 2 is different, yet Maxell has not accounted for that in its proposed function and does not address the issue in its brief. Dkt. 95 at 43-44. Because ZTE's proposed function for claim 2 corresponds to the actual claim language, it should be adopted.

With respect to the corresponding structure, Maxell seeks to cherry pick portions of the corresponding structure from the specification, while ignoring other portions that it wishes weren't there.

The parties agree that the controller means includes a CPU, but Maxell seeks to avoid the requirement that it is an “external CPU.” Dkt. 95 at 42-43. Maxell argues that the corresponding structure is shown in Figs. 1, 4-6 and 9; however, each of those embodiments uses an “external”

CPU. In fact, no embodiment of the patent ever uses an internal CPU for the controller function. *See, e.g.*, Fig. 1 (“external CPU 50”), Fig. 6 (“external CPU 50”); Fig. 10 (same); Fig. 11 (same); Fig. 12 (same); Fig. 13 (same); Mayer-Patel Decl. at ¶¶39-41. Maxell protests that this is simply reading a preferred embodiment from the specification into the claims. However, MPF claims are necessary limited by the corresponding structure in the specification. Moreover, there is no embodiment – preferred or otherwise – in the patent that does not use an external CPU.

Maxell next argues that ZTE’s construction “sits in uneasy tension with the natural language of the claim itself.” Dkt. 95 at 43. Maxell suggests that because the “multiplexed audio data decoder apparatus” comprises (i.e., includes) the controller means it would be nonsensical for it to be external. This argument is without merit and Maxell offers no case law support or specification support for its position. Instead, the specification expressly states that the “multiplexed audio decoder apparatus according to the present invention comprises . . . ***an external CPU 50***.” ’491 Patent at 4:35-39. According to Maxell’s argument, this embodiment – which is the preferred embodiment of the patent – would be excluded from its construction. Such a construction, that excludes the preferred (and only disclosed embodiment) “is rarely, if ever, correct.” *Vitronics Corp. v. Conception, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).

Moreover, the use of an external CPU for the controller is not unrelated to the recited function, but is in fact a primary basis of the alleged invention. *See, e.g.*, 491 Patent at 1:49-2:10 (described problems with prior art “built-in” ROM).

Next, Maxell’s construction ignores the fact that the CPU is “connected via a bus between a read only memory [ROM] and the first memory.” Yet, this is the only corresponding structure disclosed in the patent for performing the “transferring portion” of the “controller means” function. *See, e.g.*, Fig. 1 (DB, external CPU 50, external ROM 60, Internal RAM 25).

Finally, because the corresponding structure of the controller means includes a CPU, the parties agree that the corresponding algorithm must be including in the corresponding structure. Yet, Maxell seeks to omit certain steps in the disclosed flow charts. It provides no reason or explanation for doing so. Mayer-Patel Decl. at ¶ 42. The corresponding algorithm includes the full requirements of Figs. 4 and 5.

**B. “a demultiplexer for inputting one audio data sequence which is compressed and encoded, being selected from a plurality of audio data sequences which are multiplexed”**

This claim limitation requires that the demultiplexer input “one audio data sequence.” Yet, the claim does not identify into what this item is inputted. The breadth and scope of the claim cannot be determined as the claim does not recite an operable device. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014). The only possible language in the claim that could correspond to this this input, is the last clause which recites “a digital signal processor [DSP] for decoding said one audio data sequence. . . .” But, this is inconsistent with the specification as in all disclosed embodiments in the output of the demultiplexer is inputted to a frame sync, not the DSP. *See, e.g.*, Fig. 1 (frame sync 21); Fig. 6 (same); Figs. 10-13 (same); Mayer-Patel Decl. at ¶ 46. Given this insoluble ambiguity, the claim should be held invalid under Section 112(2).

Alternatively, the limitation should be construed consistently with the specification. This requires that the demultiplexer is inputted to the Frame Sync. Moreover, based on the additional requirement in the claim that the demultiplexer is also for “extracting a method of compression and encoding of said one audio data sequence” this must also be part of the claim construction. ’491 Patent, 12:59- 63.

#### **XIV. The ’317 Patent**

The ’317 Patent is directed to a portable device for walking navigation. The patent contrasts this type of system from those used for driving.

**A. “walking navigation”**

In construing claims, the court considers the specification, claims, prosecution history and possibly extrinsic evidence. *See Phillips*, 415 F.3d at 1314. Often, the specification not only provides guidance as to what the claims cover, but also inform what the claims do not cover. *See id.* at 1312. For example, in describing the deficiencies of the prior art and touting how the invention allegedly overcomes those deficiencies, the patent disclaims coverage of the denigrated arrangement. *See Tronzo v. Bimet, Inc.*, 156 F.3d 1154, 1159 (Fed. Cir. 1998).

Here, the specification makes plain that “walking navigation” is mutually exclusive from driving navigation. Andrews Decl. at ¶ 37. For example, in the background section of the patent, the inventors assert there “are also many systems under development to be used for supplying the GPS (Global Positioning System). For example, a car navigation system is to be mounted on a car is too large for a walker to carry around. *Id.* In addition, because the [car] navigation system premises that the system is used while the object car is running on a road, *it cannot be used as a walker’s navigation system as is.*”<sup>317</sup> Patent at 1:31-38; Andrews Decl. at ¶ 40. This is an express disclaimer of car navigation systems.

Maxell argues that the inclusion of the phrase “as is” negates the disclaimer in this case and this it concerned the fact that such systems were “bulky” or too large to car. But the specification is to the contrary. After discussing the “too large” issue, it says *In addition . . . it cannot be used as a walker’s navigation system as is.*” There is no teaching in the ’317 patent of modifying or adjusting a car system to also be a walking navigation system. As such, the disclaimer stands.

**B. “a relation of said direction and a direction from said present place to said destination”**

To minimize the issues under consideration, ZTE agrees that this term should be construed under its ordinary and customary meaning as proposed by Maxell.

**C. [a device connected to a server,] “said device connected to said server outputting said location information and said direction information and receiving retrieved information based on said outputted information at said server”**

This limitation is governed under Section 112(6) as an MPF term. However, because there is no corresponding structure or algorithm disclosed in the specification, it renders the claims invalid under Section 112(2). First, the only potential structure recited for the claimed function is “a device;” however, as the *Williamson* court recognized, device is merely a “nonce word. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (“[g]eneric terms such as mechanism, element, **device**, and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word means because they typically do not connote sufficiently definite structure and therefore may invoke § 112, para. 6.”).

Second, the functions at issue are clearly software steps (outputting, receiving data) and no corresponding algorithm is disclosed or any corresponding structure. Andrews Decl. at ¶¶ 49-51.

In fact, Maxell itself has failed to identify any corresponding structure. Accordingly, claim 6 (which include this limitation) and dependent claims 7-9 should be held invalid as indefinite under Section 112(2).

**XV. The '493 and '729 Patents**

While there are no terms disputed in the '493 patent, it shares a common specification with the '729 patent. That shared specification describes the inventions embodied in the claims of both the '493 patent and the '729 patent. The patents are directed to cameras with image sensors, image processors, and displays. In the various embodiments contained in the patents, the image processors are configured with algorithms for fixed image and video formation. The image sensors contain a grid of filters and associated charge elements which make up the pixels. *See* FIGs 4, 10, 13A, and 13B, *See also* 4:43 – 4:48; 6:18 – 6:30; 12:57 – 12:59; and 15:24 – 15:45. The processing algorithms disclosed involve the formation of still imagery as well as video.

One of ordinary skill would possess a working knowledge of camera hardware and image processing software. Mansoorian Decl. at ¶ 19. This level of knowledge would be present in an individual possessing a Bachelor's Degree in Electrical Engineering, Computer Engineering and/or Computer Science with 3 years industry experience working with imaging systems. *Id.*

**A. “an image sensing device having an array of pixels arranged vertically and horizontally in a grid pattern”**

The parties disagree about whether the term is a means-plus-function limitation that should be construed in accordance with § 112, ¶ 6.

**(1) This Is a Means-Plus-Function Claim Element**

Claim 1 contains “an image sensing device having an array of pixels arranged vertically and horizontally in a grid pattern.” This term should be construed according to 35 U.S.C. § 112, ¶ 6 because the claim doesn't contain sufficient structure to do the function of image sensing. Although this limitation does not include the word “means,” the limitation does not recite sufficiently definite structure for performing the claimed function, and thus should be construed as a means-plus-function limitation. *Williamson*, 792 F.3d at 1349.

By way of contrast, claim 1 of the '493 patent includes the requisite structure for image sensing, the '729 patent does not.

'493 patent	'729 patent
an image sensing device <i>with a light receiving sensor</i> having an array of pixels arranged vertically and horizontally in a grid pattern	an image sensing device having an array of pixels arranged vertically and horizontally in a grid pattern;

(emphasis added)

Plaintiff's reliance on *Free Stream Media Corp* is unavailing because in contrast to the device construed in *Free Stream Media Corp* the image sensing structure needed to perform the function of image sensing is not present in the claim. Further, the plaintiff's assertion that it should be governed by the plain and ordinary meaning is inappropriate because the fail to offer what that meaning might



be and therefore there is a high likelihood of a remaining dispute. *See* O2, 521 F.3d at 1361 (“A determination that a claim term ‘needs no construction’ or has the ‘plain and ordinary meaning’ may be inadequate when a term has more than one ‘ordinary’ meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute.”). Here, a pixel is a data construct in an image (with data representing color intensities from multiple image filter-sensor elements), not an element on a sensor as plaintiffs appear to assert.

Because this limitation describes functions without reciting sufficient structure for performing those functions, the presumption flowing from the absence of the word “means” is rebutted and this limitation is a means-plus-function limitation. *Williamson*, 792 F.3d at 1348.

**(2) The Appropriate Structure to perform the function of image sensing includes color filters arranged in vertical lines**

The appropriate structure for image sensing must include the color sensitive filters. In their opening brief, plaintiff asserts “ZTE’s primary support from the specification does not include any reference to “color sensitive filter elements arranged such that each color forms a vertical line,” which is at best a significant overstatement. For example the specification states, “On these grid-arrayed pixels three types of color filters that pass yellow (Ye), green (G) and cyan (Cy), respectively, are arranged in such a Way that the combination of these three colors is repeated horizontally every three pixels and that the filters of the same colors are lined vertically in so-called vertical stripes.” ’729 Patent at 4:41 – 4:46 (emphasis added). Additional support is later found in what the patent refers to as the “fourth embodiment.” “FIGS. 13A and 13B show arrangements of color filters in this embodiment. These color filters in both examples are arranged in vertical stripes and, regardless of the number of pixels to be vertically mixed or culled, the R, G, B primary color signals can be generated from one line of output signals.” *Id.* at 15:25 – 15:30 (emphasis added); Mansoorian Decl. at ¶¶44-45.

**B. “an image instability detector”**

The parties disagree about whether the term is a means-plus-function limitation that should be construed in accordance with § 112, ¶ 6.

**(1) This Is a Means-Plus-Function Claim Element**

Claim 1 contains “an image instability detector without disclosure of specific structure that would perform the function of detection of image instability.” Although this limitation does not include the word “means,” the limitation does not recite sufficiently definite structure for performing the claimed function, and thus should be construed as a means-plus-function limitation. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015).

“Image instability” by itself is a term that is not known in the art of image processing. Mansoorian Decl. at ¶¶ 47-48. Images are data that is both fixed in time and in space. There is nothing in an image that could be “unstable” or “instable”. Mansoorian Decl. at ¶ 49. The asserted patents attempt to discuss “image instability” in the following matter. “The asserted patents disclose gyro sensors to determine 16a and 16b gyro sensors to detect vertical image-unstability and lateral image-unstability, respectively, and 17 an image-unstability decision circuit to determine the image-instability from signals output from the gyro sensors.” ’729 Patent at 4: 32- 4:35. As discussed by Dr. Mansoorian, detect motion of the imaging platform or camera, not unstability or instability of a resultant image. Mansoorian Decl. at ¶¶ 47-49. Further, the specification fails to teach any manner to relate vertical or horizontal motion of the camera to a purported “image instability.” Mansoorian Decl. at ¶50. It is quite unclear if the patentee equated “instability” with “unstability” or what these terms would even mean with respect to image data. Even if one were to relate the purported “image instability” to motion artifact in a resultant image, the disclosure of the asserted patents fails to teach how to relate motion of the camera to instability of the image. Since gyroscopic sensors measure

rotational velocity, it is unclear how that measurement would be converted into pixel displacement. Mansoorian Decl. at ¶55.

**C. “an amount of image-instability of the camera”**

This claim element is indefinite for all of the reasons discussed above. Additionally, the phrase “an amount of image-instability” is unclear because even assuming that the patentee used this phrase to mean “motion artifact” present in the resultant image, one of ordinary skill would be left guessing whether the claim meant the total number of pixels disturbed in the image, the quality degradation of the sections of the image impacted by motion artifact, or the overall appearance of the image as a whole. The specification is silent on the meaning of “image instability.” As discussed by Dr. Mansoorian, gyroscopes measure a rate of rotation (angular velocity or speed) around x, y, and Z axis. Mansoorian Decl. at ¶ 54. There is no relationship between the specifications “vertical image-unstability and lateral image-unstability,” and the claimed image instability discussed in the specification. Mansoorian Decl. at ¶ 55. One of ordinary skill is left wondering for example, if a lateral speed of 1 inch per second measured by the lateral gyroscope is related to any number pixel offset in the motion artifact of the resultant image. Additionally, since the specification states that the “image-unstability decision circuit to determine the image-instability from signals output from the gyro sensors.” ’729 Patent at 4: 32- 4:35. One of ordinary skill would be left wondering how this decision circuit would convert angular velocity into a number of pixel displacement. Further, one would not be sure if this displacement is to be done on a pixel by pixel basis or on groups of pixels.

**D. “to change a position of the second effective set of pixels according to the amount of image-instability detected by the image-instability detector, in order to correct the image-instability”**

If the court were to find “image instability” not indefinite, the defendant’s offered construction of this term is the only one consistent with the claims themselves. *See Phillips v. AWH*

*Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (“[i]t is a “bedrock principle” of patent law that “the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Innova*, 381 F.3d at 1115; *see also Vitronics*, 90 F.3d at 1582 (“we look to the words of the claims themselves ... to define the scope of the patented invention”); *Markman*, 52 F.3d at 980 (“The written description part of the specification itself does not delimit the right to exclude. That is the function and purpose of claims.”).) Any construction inconsistent with the language of the claims must be rejected. Here, the only difference between the two proposed constructions is the amount of the shift of the effective pixel area. While the specification is silent on exactly how to convert the output of the gyroscopes into a specific pixel count, it does state that in order to correct the purported image instability the pixels must be shifted in a direction that cancels the image instability. *See* 7:11 – 7:21 The court should adopt the defendant’s construction because it is the only one consistent with the claims themselves and the specification.

**E. “a display unit configured to display an image corresponding to the image signals formed by the signal processing unit”**

The term “display unit” is a means-plus-function limitation and should be construed in accordance with § 112, ¶ 6

**(2) This Is a Means-Plus-Function Claim Element**

Claim 1 contains “a display unit configured to display an image corresponding to the image signals formed by the signal processing unit.” This term should be construed according to 35 U.S.C. § 112, ¶ 6 because the claim doesn’t contain sufficient structure to do the function of displaying the image. Although this limitation does not include the word “means,” the limitation does not recite sufficiently definite structure for performing the claimed function, and thus should be construed as a means-plus-function limitation. *Williamson*, 792 F.3d at 1349.

By way of contrast, claim 1 of the ’493 patent includes the requisite structure for image sensing, the ’729 patent does not.

'493 patent	'729 patent
a display unit <u>with the display screen</u> , to display an image corresponding to the image signals;	“a display unit configured to display an image corresponding to the image signals formed by the signal processing unit.”

(emphasis added)

Plaintiff's reliance on *Free Stream Media Corp* is unavailing because in contrast to the device construed in *Free Stream Media Corp* the image sensing structure needed to perform the function of image sensing is not present in the claim. Further, the plaintiff's assertion that it should be governed by the plain and ordinary meaning is inappropriate because the fail to offer what that meaning might be and therefore there is a high likelihood of a remaining dispute. *See* O2, 521 F.3d at 1361 (“A determination that a claim term ‘needs no construction’ or has the ‘plain and ordinary meaning’ may be inadequate when a term has more than one ‘ordinary’ meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute.”). Here, a pixel is a data construct in an image (with data representing color intensities from multiple image filter-sensor elements), not an element on a sensor as plaintiffs appear to assert.

Because this limitation describes functions without reciting sufficient structure for performing those functions, the presumption flowing from the absence of the word “means” is rebutted and this limitation is a means-plus-function limitation. *Williamson*, 792 F.3d at 1348.

**(3) The Appropriate Structure to perform the function of displaying an image must include a display screen of a television system or other screen compatible with NTSC or PAL formats**

Throughout the specification the use of television display formats are used almost exclusively. Mansoorian Decl. at ¶59; *See* '729 Patent at 1:32 – 1:44 (In a video camera to photograph moving images, it is generally assumed that the video is viewed on a display such as television monitor and thus the camera is designed to produce output signals conforming to a television system such as NTSC and PAL. Therefore, the effective number of vertically arranged pixels or picture elements on the image sensing device used in such a camera is determined to enable

television signals to be generated. The NTSC system, for example, performs interlaced scanning on two fields, each of which has an effective scanning line number of about 240 lines (the number of scanning lines actually displayed on the monitor which is equal to the number of scanning lines in the vertical blanking period subtracted from the total number of scanning lines in each field.)).

Additionally the only other disclosed embodiment in the specification is also a television standard. Mansoorian Decl. at ¶60; *See* '729 Patent at 10:17 – 10:21 (Although this embodiment described the case of NTSC system, the invention can also be applied to other television systems, such as PAL standard, with different numbers of effective scanning lines. Clearly the patentee intended both embodiments of the invention to be limited to display screens configured to comply with television standards.

#### **XVI. The '193 Patent**

As noted by the Plaintiff the 193 Patent claims priority to November 10, 1998. The cellular industry at the time was very different that it is today. The cellular systems that were deployed in the field were predominated by two fundamentally different Second Generation (2G) cellular technologies. The first was an advanced form of Global Systems Mobile (GSM) known as Enhanced Data Rates for GSM Evolution (EDGE). This technology employed a type of spread spectrum known as frequency-hopping. The second technology was an earlier form of Code Division Multiple Access (CDMA) which utilized codes to spread the signal. Standardization efforts were underway within the Standards Setting Organizations to develop standards for Third Generation Cellular. Within the Third Generation Partnership Project (3GPP) the standards for Wideband CDMA (WCDMA) were being written and within the Telecommunications Standards Institute (TIA) drafting of the standards for CDMA2000 were underway. Both of the third generation cellular technologies were based on CDMA.

These technologies are fundamentally different than Fourth Generation (4G) cellular systems used today. 4G systems utilize Orthogonal Frequency Division Multiple Access (OFDMA). When compared to the earlier technologies, 4G telecommunication signals have larger frequency bandwidths, different transmit powers, and utilize completely different frequency bands. Amplifiers used in 3G systems are completely inappropriate for 4G systems.

We believe that a person of ordinary skill for the 193 patent would be a person with a Bachelor's Degree in Electrical Engineering and approximately 2 years working in the telecommunications industry as a hardware engineer. Ding Decl. at ¶19.

**A. “A cellular telephone adapted to be used in a CDMA system, comprising”**

“A cellular telephone adapted to be used in a CDMA system, comprising”

The preambles of the 193 patent's claim should be limiting. CDMA was added to the claim preambles by amendment during prosecution to overcome the prior art. Prosecution history estoppel limits claim scope by amendments and arguments made during prosecution is a bedrock principal of claim interpretation. *See UCB Inc. v. Yeda Research & Dev. Co.*, 837 F.3d 1256, 1260 (Fed. Cir.2016) (However, the content of the specification and actions and arguments during prosecution must also be considered, in defining the scope of a generic term in a claim.) citing *Advance Transformer Co. v. Levinson*, 837 F.2d 1081, 1083 (Fed. Cir. 1988) (“Positions taken in order to obtain allowance of an applicant's claims are pertinent to an understanding and interpretation of the claims that are granted by the PTO . . . and may work an estoppel as against a subsequent different or broader interpretation.”).

The preambles of the claims of the 193 patent are necessary in order for one of ordinary skill to understand how to make and use the invention. As discussed above and further explained by Dr. Ding, a skilled artisan would need to understand what type of cellular system the cellular telephone would be operating in before they could design the Radio Frequency transmission hardware claimed

in the 193 patent. Ding Decl. at ¶¶ 36-38. By understanding that the cellular telephone would be “adapted to be used in CDMA systems” the appropriate components (amplifiers, filters, and mixers) would be selected to allow for efficient operation in the particular frequency band and at the particular power designated for CDMA systems, in contrast to OFDMA systems such as LTE or frequency-hopping systems like GSM. Ding Decl. at ¶¶ 36-38; 40-42. Therefore, the preambles clearly breath “life, meaning, and vitality” into the claims and should be limiting. See *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)).

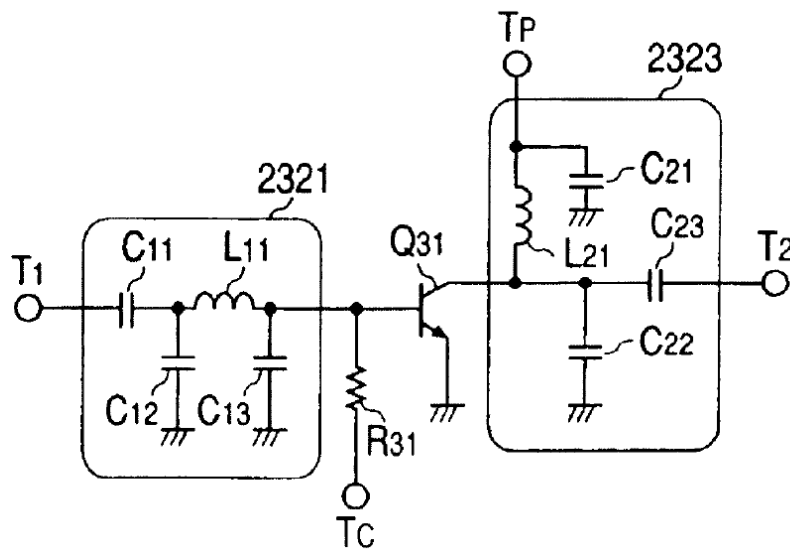
Plaintiff agrees that the preambles were amended during prosecution to overcome the prior art. This further supports the limiting nature of the amendment and the importance of CDMA to the meaning of the claims. This was the claim limiting amendment used to gain allowance of the amendment. In remarks the applicant went into significant detail about the technical nature and distinctions of CDMA networks over the cited prior art. Ex. 18 at 7-9. In response, the Examiner allowed the patent to issue. Clearly this preamble breathes life and meaning into the claims and is therefore limiting.

#### **B. “variable amplitude amplifier”**

The term should be construed as “device that includes a first-stage amplifier, two filters, an up-converter, and a second-stage amplifier because the embodiment of Figure 1 is the only embodiment that fits within the scope of the claims. With respect to what Hitachi now asserts as the “preferred” embodiment of Figure 3, the specification is not enabling on how it works or even how it would be connected to the “control signal” required in the claims. Ding Decl. at ¶¶ 42. The circuit in Figure 3, below, has 4 inputs T1, Tc, Tp, and T2. ’193 Patent at FIG. 3. The specification describes T1 and T2 as the input and output terminals respectively, ’193 Patent at 6:58 – 6:61, and the power source voltage is connected to terminal Tp. ’193 Patent at 7:10 – 7:12. The specification



states that “transistor Q31 controls the output power according to the control signal generated by the CPU 310. The higher the voltage of the control signal is, the more output power is obtained due to an increase of the collector current” but it is silent on how the control signal reaches the Q31 or how it would control the output power if it did reach transistor Q31. Ding Decl. at ¶ 44; ’193 Patent at 7:15 – 7:20. As noted by Dr. Ding, Amplifier gain and effective bandwidth are typically set by the ratio of impedances on the base and collector and/or emitter of the transistor. Ding Decl. at ¶ 44. Not only does the specification not disclose how the control signal reaches transistor Q31 it also fails to teach how that signal would vary the gain of the circuit. *Id.* Including this embodiment would be inappropriate because it is neither adequately described nor enabled by the specification. *Id.*



Including the embodiment of Figure 3, may render the claims vague and indefinite since the disclosure in the specification fails to meet basic written description and enablement requirements. *Baran v. Medical Device Techs, Inc.*, 616 F.3d 1309, 1316 (Fed. Cir. 2010) (“It is not necessary that each claim read on every embodiment.”); *Intamin Ltd. v. Magnetar Techs., Corp.*, 483 F.3d 1328, 1336-37 (Fed. Cir. 2007) (“[A] claim need not cover all embodiments.”) (citation omitted); *North American Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 1577 (Fed. Cir. 1993) (“A patent applicant cannot

disclose and claim an invention narrowly and then, in the course of an infringement suit, argue effectively that the claims should be construed to cover that which is neither described nor enabled in the patent.”)

Further as noted by Dr. Ding, the term “Variable Amplitude Amplifier” has no accepted meaning in the field and would not be known to one of ordinary skill. Ding Decl. at ¶¶ 45-48. In order to provide certainty and understanding, the court should construe the term according to the only enabled embodiment disclosed.

## **XVII. The ’794 Patent**

The ’794 Patent claims priority to May 22, 2000. The patent relates to information processing devices powered by a battery and a method of controlling power consumption in such devices. ’794 patent at 1:6-11. Specifically, the patent describes information processing devices that allow priority levels to be set for particular functions in the information processing device, such that battery time can be maintained in a prioritized manner for function devices that have higher priorities. *Id.* at 2:21-26.

A person of ordinary skill in the art for the ’794 patent would be a person with a Bachelor’s Degree in computer science, computing engineering, electrical engineering, or a related field, and approximately 2 years of experience in low-power electronic computing systems. Wolfe Decl. ¶ 22.

### **A. “function device(s)” / “component device” / “component devices for performing different functions in the device”**

#### **(1) These are Means-Plus-Function Claim Elements**

Although these claim limitations do not include the word “means,” they are means-plus-function elements and must be construed accordingly. The Federal Circuit has found that the term “device” is a non-structural, nonce word that is “tantamount to using the word ‘means’ because [it] typically [does] not connote sufficiently definite structure.” *Williamson*, 792 F.3d at 1350; *Robert*

*Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1099 (Fed. Cir. 2014) (citing *Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed.Cir.2006)).

Even more so than in *Williamson* and *Robert Bosch*, the '794 patent's recitation of the word "device" is tantamount to using the word "means" because the claim language does not provide any indication of structure whatsoever. Neither the modifiers "function" and "component," nor the language that follows the terms—"equipped with independent functions" and "for performing different functions"—adds anything in the way of a structural element to the terms. *See id.*; *Williamson*, 792 F.3d at 1351 (finding language prefixed to "module" failed to impart structure into claim term). Moreover, "function device" and "component device" have no recognizable meaning to a person of ordinary skill in the art, instead generically describing literally **any** device that is capable of performing **any** function. Wolfe Decl. ¶¶ 41-42. The terms have no structural significance and have no meaning more than if the patentee had used the word "thing." *Id.* at ¶ 42. Nor does the specification provide a description of the terms at all, let alone a level of description that could impart any structural significance. *Id.* at ¶ 43; *Williamson*, 792 F.3d at 1351. Thus, each of the terms "function device" and "component device" is "simply a nonce word or a verbal construct that is not recognized as the name of structure" subject to means-plus-function treatment. *See, e.g., Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1096 (Fed. Cir. 2008).

Maxell does not dispute that "function device" and "component devices" are nonce words that operate as substitutes for the term "means." Instead, Maxell's only arguments against reading these terms as means-plus-function language are to state that use of the word "device" is insufficient to invoke § 112, ¶ 6 and to assert that the claim terms should not be construed this way because they do not recite a function. Op. Br. at 56-57. But Maxell fails to provide any support for its conclusory statement that the use of the word "device" in the '794 patent does not invoke § 112,

¶ 6, and makes no attempt to distinguish the language of the '794 patent from the Federal Circuit decisions finding otherwise. *See, e.g., Williamson*, 792 F.3d at 1350; *Robert Bosch*, 769 F.3d at 1099.

Maxell's argument that the claims fail to recite a function is also unavailing. First, Maxell's assertion that the claims do not recite a function is flatly wrong. The term "component devices" explicitly recites that it is "for performing different functions in the device." *See* '794 patent at cl. 9. The fact that this language fails to identify any specific function, instead reciting that the device should perform unspecified different functions in the device, does not render the language non-functional. Similarly, the term "function device" is followed by the phrase "equipped with independent functions" – language which by its very terms is functional (albeit, again, non-specific). The patentee's attempt to capture any structure that performs any function by using generic functional language only compounds the indefinite nature of the claims. ZTE's attempt to look to the specification to provide some indication of what these unspecified functions could be only highlights the indefiniteness of the claim language.<sup>15</sup> The claims' failure to recite *specific* functions does not somehow create structure, nor does the patentee's attempt to cover any function without bounds mean that the language is non-functional. Thus, neither of Maxell's arguments supports its position. In contrast, Maxell fails to even argue that there is any language in the generic functional language of the claims that provides sufficiently definite structure for the recited "device."

Moreover, Maxell's proposed construction is inappropriate. Maxell attempts to support its construction of these terms by first admitting that "component device" and "function device" are creations of the inventors' "own terminology" – not terms of art with known meaning (*see* Wolfe Decl. at ¶ 41) – and then cobbling together citations from the specification in an attempt to provide

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<sup>15</sup> To the extent Maxell takes issue with the functions that ZTE identifies from the specification, an alternative function would thus be "performing different functions in the device" (for "component devices") and "performing independent functions" (for "function device"). This language comes from the claims themselves.

a definition for these terms. Op. Br. at 55-56. Maxell's reliance upon the specification to provide meaning for these terms confirms that there is no language in the claims that provides sufficiently definite structure for the recited device. The proper question is "whether the *words of the claim* are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure" to perform the recited function, not whether the specification "informs" the alleged structure of the claims. *Williamson*, 792 F.3d at 1348. Maxell's quick shift to the specification signals that the claim language fails to recite sufficiently definite structure. And even if the specification excerpts that Maxell identifies were incorporated into the claimed device—which would be improper—they are so generic that they still fail to impart sufficiently definite structure. *See, e.g.*, Wolfe Decl. at ¶ 44.<sup>16</sup> Pointing broadly to "hardware, software, or a combination of the two that consumes power and implements one of more functions" as the supposed meaning of the term actually establishes the purely functional nature of the claim limitation, without any structural limitation. *Williamson*, 792 F.3d at 1349. This construction should be rejected because it provides no additional structure, has no metes and bounds, and would encompass *any* hardware, software or combination thereof. *See* Wolfe Decl. at ¶ 47.

Because the "function device" and "component device" terms do not connote specific structure to one of ordinary skill in the art, the presumption from the absence of the word "means" is rebutted and these limitations must be interpreted as means-plus-function elements under § 112, ¶ 6. Wolfe Decl. ¶¶ 41-45; *Williamson*, 792 F.3d at 1349.

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<sup>16</sup> The only actual structures that Maxell attempts to identify are CPU and memory. Op. Br. at 55-56; '794 patent at 6:14-15. However, the specification describes these as "common function devices," not "function devices" or "component devices." In contrast, there is no disclosure of structural elements anywhere else in the specification, further highlighting the patent's failure to describe any structure for "function devices" or "component devices."

## (2) The '794 Patent Specification Does Not Disclose Any Structure

Because this limitation is a means-plus-function limitation, the specification must disclose a structure corresponding to the recited functions. *Williamson*, 792 F.3d at 1351-52. Notably, Maxell does not even attempt to identify any disclosed structure that would perform the claimed functions. Nor can it. As discussed above, the vague, scant excerpts from the specification relied upon by Maxell to argue that § 112, ¶ 6 should not apply do not help Maxell even if it had incorporated them into its identification of structure. They are circular (for example, “The devices specific to the functions 1, 2 are provided through the function devices 1, 2....” (*see* Op. Br. at 55; '794 Patent at 6:15-18)), and, at most, state nothing more than that the devices receive power, perform functions in an information processing device, and that they can perform single or multiple functions. Op. Br. at 55-56. These portions of the specification describe the “function devices” only in terms of functionality, and do not provide any disclosure that one of ordinary skill in the art would recognize as a structure for performing the claimed functions. Wolfe Decl. at ¶46; *Williamson*, 792 F.3d at 1352 (“[I]f a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim, a means-plus-function clause is indefinite.”); *Bosch*, 769 F.3d at 1101 (finding means plus function “device” terms indefinite where the specification “offer[ed] no further guidance about their structures.”). The '794 Patent fails to disclose any structure for performing the recited functions associated with the claimed “function device” and “component devices,” and claims 1 and 9 are therefore indefinite.

## XVIII. The '695 Patent

This is a continuation of the '491 patent and is generally directed to the same subject matter.

- A. **“a controller for receiving a method of compression and encoding from said demultiplexer, for detecting whether said method of compression and encoding changes to another method of compression and encoding or not, and if said method of compression and encoding changes, for downloading the decoding program code corresponding to said another method of compression and encoding, to said memory from outside of said memory”**

While the parties agreed that the nearly identical term in the '491 patent (“controller means”) was an MPF term governed by Section 112(6), Maxell argues that the *deletion* of one word (“means”) transforms the claim limitation from one that does not recite sufficient structure to avoid application of Section 112(6) to one that does recite sufficient structure. The law does not support this position.

Maxell attempts to support its position by arguing that several district court cases have found “controller” in the context of other patents to be sufficient structure to avoid Section 112(6). First, all but one of those cases, were decided prior to the Federal Circuits’ *en banc* decision in *Williamson*, which removed the heavy presumption against Section 112(6) application where “means” is not recited. The sole remaining case is *Sound view*, an unreported case from outside the district. Respectfully, ZTE submits that it is inapplicable and wrongly decided.

The *Williamson* case itself is a close analogue. In that case, the claim limitation was a control module – much like the recited controller here. *Williamson*, 792 F.3d at 1350. The court found that the claim was written in classic means plus function format: an introductory clause with a nonce word followed by a recited function. *Id.* at 1350-51. That is exactly the same as the format here. Indeed, the originally filed claims in the '695 patent prosecution recited a “controller means” and the Patentee rewrote the claim in the near identical format to recite a controller instead of a controller means.

Maxell also argues that the IBM dictionary is extrinsic evidence that supports its position that “controller” is a known specific device in the field. Dkt. 95 at 63-64. But the definition provided, “[a] device that coordinates and controls the operation of one or more input/output

devices, such as workstations, and synchronizes the operation of such devices with the operation of the system as a whole,” is inconsistent with the actual recited requirements of the “controller” claim limitation at issue here. Mayer-Patel Decl. at ¶53. In this case, the controller must function to (1) detect whether the method of compression and encoding has changed, (2) download particular code from outside the memory to the memory. Mayer-Patel Decl. at ¶51. These claim limitation steps are not part of the “ordinary meaning” of controller as defined in the IBM document. Thus, the claim itself recites insufficient structure to meet the claimed function and is thus subject to Section 112(6).

Once application of Section 112(6) is established, the claim construction is almost identical to the “controller means” discussed above with respect to the 491 patent. Accordingly, Defendants construction should be adopted.

### **XIX. Conclusion**

For the reasons above, Huawei and ZTE respectfully requests that the Court adopt their respective proposed constructions and find that certain claims identified above are indefinite and invalid.

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**CERTIFICATE OF SERVICE**

I certify that all counsel of record who are deemed to have consented to electronic service are being served with a copy of the foregoing document via the Court's CM/ECF system per Local Rule CV-5(a)(3), this 23rd of October, 2017.

/s/ Stanley Young